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It is ironical that the practice of attempting to cure rickets by holding the child in the cleft of an ash tree was associated with the rising of the sun, the light of which we now know is in itself one of Nature's specifics.

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*Frazer, J. G.: The Golden Bough, vol. 1, New York, Macmillan & Co., 1928

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(1) 1936 J. Nutrition 11, 55.

(2) 1936 J. Home Econ. 28, 18.
1925 Ibid, 17, 265

(3) 1935 J. Home Econ. 27, 376

(4) 1917 Amer. J. Dis. Child, 14, 34

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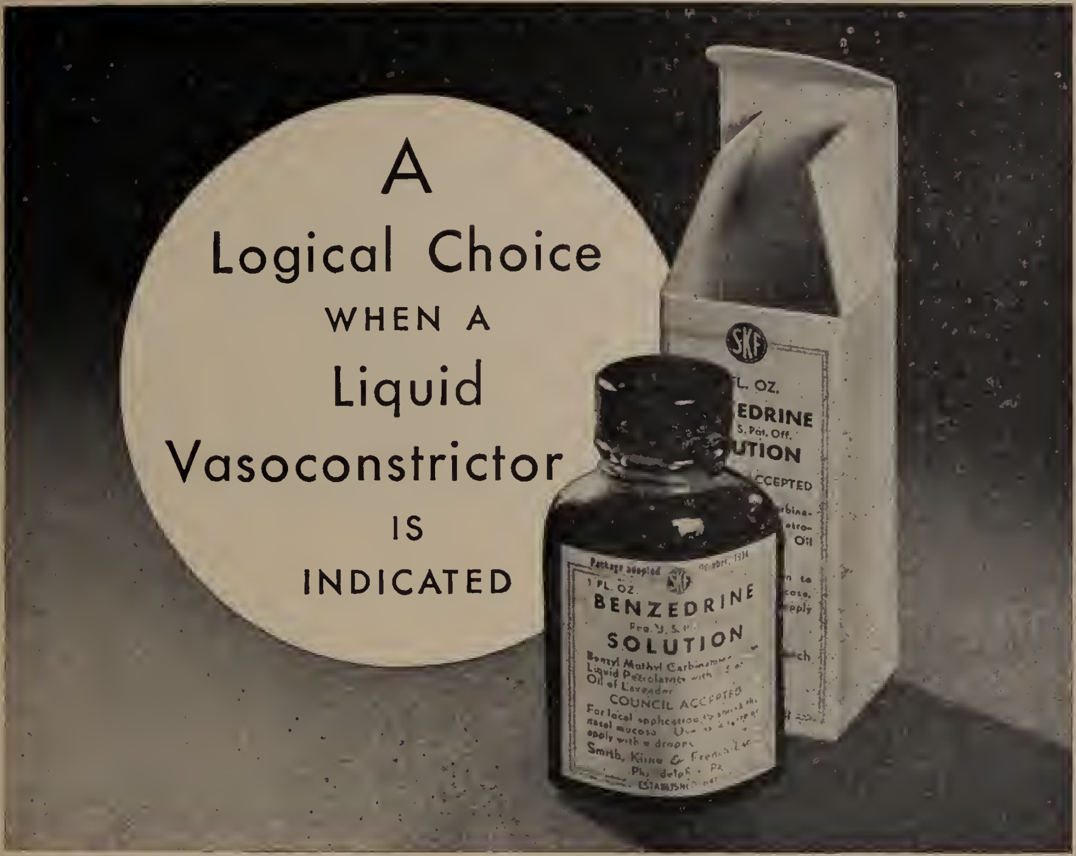

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COUNTY	SECRETARY	RESIDENCE	DATE 1937
Adair	N. A. Mercer	Columbia	January 6
Allen	A. O. Miller	Petroleum	January 27
Anderson	J. B. Lyen	Lawrenceburg	January 4
Ballard	F. H. Russell	Wickliffe	January 12
Barren	Paul S. York	Glasgow	January 20
Bath	H. S. Gilmore	Owingsville	January 11
Bell	R. F. Porter	Middlesboro	January 8
Boone	R. E. Ryle	Walton	January 20
Bourbon	W. B. Hopkins	Paris	January 21
Boyd	C. B. Daniels	Ashland	January 5
Boyle	P. C. Sanders	Danville	January 19
Bracken	J. M. Stevenson	Brooksville	January 4
Breathitt	Frank K. Sewell	Jackson	January 19
Breckinridge	J. E. Kincheloe	Hardinsburg	
Bullitt	S. H. Ridgeway	Shepherdsville	
Butler	G. E. Embry	Morgantown	January 6
Caldwell	W. L. Cash	Princeton	January 5
Calloway	Hugh L. Houston	Murray	January 7
Campbell-Kenton	C. A. Morris	Covington	January 7-21
Carlisle	J. F. Dunn	Arlington	January 5
Carroll	J. M. Ryan	Carrollton	January 12
Carter	W. S. Hawn	Grayson	January 12
Casey	William J. Sweeney	Liberty	January 28
Christian	M. A. Gilmore	Hopkinsville	January 19
Clark	R. E. Strode	Winchester	January 15
Clay	J. L. Anderson	Manchester	January 16
Clinton	S. F. Stephenson	Albany	January 16
Crittenden	C. G. Moreland	Marion	January 11
Cumberland	W. F. Owsley	Burkesville	January 6
Daviess	W. H. Parker	Owensboro	January 12-26
Elliott	R. Eugene Wehr	Sandy Hook	
Estill	R. R. Snowden	Ravenna	January 13
Fayette	John Harvey	Lexington	January 12
Fleming	C. W. Christine	Flemingsburg	January 13
Floyd	J. G. Archer	Prestonsburg	January 27
Franklin	Grace R. Snyder	Frankfort	January 7
Fulton	M. W. Haws	Fulton	January 13
Gallatin	J. M. Stallard	Sparta	January 21
Garrard	J. E. Edwards	Lancaster	January 21
Grant	C. A. Eckler	Dry Ridge	January 20
Graves	H. H. Hunt	Mayfield	January 5
Grayson		Leitchfield	
Green	S. J. Simmons	Greensburg	January 4
Greenup			January 8
Hancock	F. M. Griffin	Hawesville	January 4
Hardin	D. E. McClure	Elizabethtown	January 14
Harlan	C. M. Blanton	Harlan	January 16
Harrison	W. B. Moore	Cynthiana	January 4
Hart	S. F. Richardson	Munfordsville	January 5
Henderson	Walter O'Nan	Henderson	January 11-25
Henry	Owen Carroll	New Castle	January 25
Hickman	Charles Hunt	Clinton	January 7
Hopkins	David L. Salmon	Madisonville	January 7
Jackson			January 2
Jefferson	Uly H. Smith	Louisville	January 4-13
Jessamine	J. A. Van Arsdall	Nicholasville	January 21
Johnson	P. B. Hall	Paintsville	January 9
Knott	M. F. Kelley	Hindman	January 23
Knox	T. R. Davis	Barbourville	January 22
Larue	D. W. Gaddie	Hodgenville	January
Laurel	Oscar D. Brock	London	January 13
Lawrence	W. C. Gose	Louisa	January 18
Lee	W. D. McCollum	Beattyville	January 9
Leslie	John H. Kooser, Act. Sec'y	Hyden	
Letcher	**J. E. Crawford**	Whitesburg	January 26
Lewis	J. D. Liles	Vanceburg	January 18
Lincoln	Lewis J. Jones	Hustonville	January 15
Livingston	William C. Davis	Smithland	January
Logan	Walter Bryne, Jr.	Russellville	
Lyon	H. H. Woodson	Eddyville	January 5
McCracken	Leon Higdon	Paducah	January 27
McCreary	R. M. Smith	Stearns	January 4
McLean			January 14
Madison	H. G. Wells	Richmond	January 21

COUNTY	SECRETARY	RESIDENCE	DATE 1936
Marion	W. A. Risteen	Lebanon	
Marshall	S. L. Henson	Benton	January 20
Mason	O. M. Goodloe	Maysville	January 13
Meade	A. A. Baxter	Brandenburg	January 28
Menifee	E. T. Riley	Frenchburg	January
Mercer	J. Tom Price	Harrodsburg	January 12
Metcalfe	E. S. Dunham	Edmonton	
Monroe	George E. Bushong	Tompknisville	January
Montgomery	D. H. Bush	Mount Sterling	January 12
Morgan	W. H. Wheeler, Act. Sec'y.	Betsy Lane	January
Muhlenberg	J. H. Harralson	Central City	January 12
Nelson	R. H. Greenwell	Bardstown	
Nicholas	T. P. Scott	Carlisle	January 18
Ohio	Oscar Allen	McHenry	January 6
Oldham	S. J. Smock	LaGrange	January 5
Owen	K. S. McBee	Owenton	January 7
Owsley	John R. Aker	Booneville	January 4
Pendleton	W. A. McKenney	Falmouth	January 13
Perry	J M. Ray	Allais	January 11
Pike	M. D. Flanary	Pikeville	January 4
Powell	I. W. Johnson	Stanton	January 4
Pulaski	M. C. Spradlin	Somerset	January 14
Robertson			
Rockcastle	Lee Chestnut	Mount Vernon	
Rowan	A. W. Adkins	Morehead	January 11
Russell	J. B. Scholl	Jabez	January 11
Scott	Carl M. Gambill	Georgetown	January 7
Shelby	W. E. Morris	Shelbyville	January 21
Simpson	N. C. Witt	Franklin	January 12
Spencer	No Organization		
Taylor	M. M. Hall	Campbellsville	January 7
Todd	B. E. Boone, Jr.	Elkton	January 6
Trigg	H. L. Wallace	Cadiz	January 27
Trimble	J. J. Gerkins	Bedford	
Union	D. C. Donan	Morganfield	January 27
Warren	Hal Neel	Bowling Green	January 13
Washington	J. H. Hopper	Willisburg	January 20
Wayne			
Webster	C. M. Smith	Dixon	January 29
Whitley	C. A. Moss	Williamsburg	January 7
Wolfe	G. M. Center	Campton	January 4
Woodford	Charles F. Voigt	Midway	January 7

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★ *Proc. Soc. Exp. Biol. and Med., 1934, 32, 241-245*
Laryngoscope, Feb. 1935, Vol. XLV, No. 2, 149-154
N. Y. State Jour. Med., June 1935, Vol. 35, No. 11
Arch. Otolaryngology, Mar. 1936, Vol. 23, No. 3, 306-309

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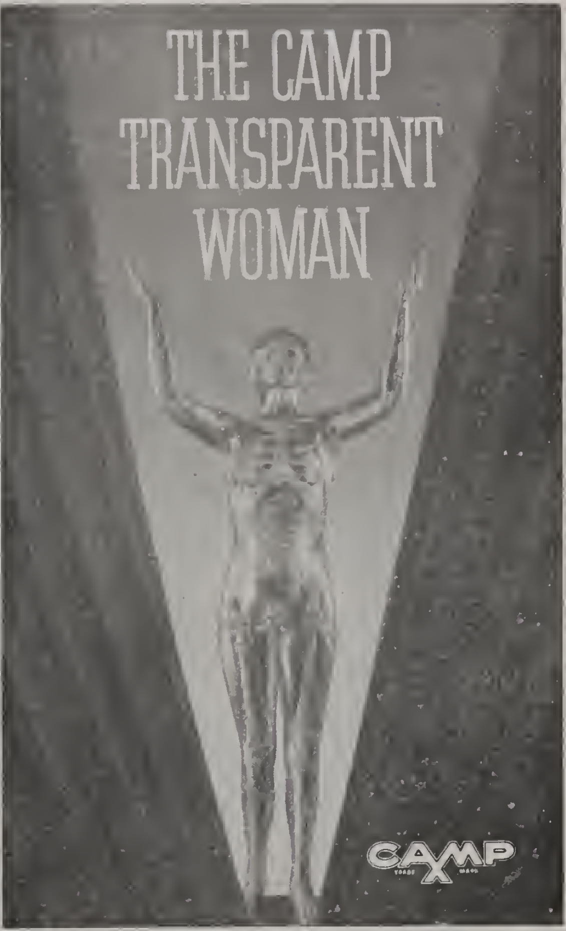

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A NEW YEAR'S MESSAGE FROM THE PRESIDENT-ELECT

A state medical society is, of necessity, a democratic organization, having for its primary object the improvement of the rank and file of the profession. Its activities should, naturally, be directed to benefiting the greatest possible number of its constituent members. This has been the policy of the Kentucky State Medical Association since it was first organized in 1851 and will, we feel, be consistently continued as a general principle, in the years to come.

The hardships which the general public has had to endure for the past few years have been shared by the medical profession as a whole, and, in looking back over this period, we can, I feel, take pride in the record which the profession as such has made. Special tribute, I think, should be paid the general practitioner, particularly in the rural district, for the part which he has played, especially in maintaining his morale.

We all feel, I am confident, that the worst of the depression is over and that 1937 promises improved and improving conditions, in the benefits of which we, as physicians, will share along with all other elements of the population.

H. G. REYNOLDS.

GREETINGS

The medical profession of Kentucky can very properly take a great deal of pride in its standing this New Years Day, 1937. Charged with the responsibility for medical service and public health by the people of the State for these last fifty years, it is gratifying to be able to say to them that we have the lowest sick and death rate in the history of the Commonwealth. For the several years of the depression we have suffered financially with the rest of our fellow citizens, but reports from every part of the State show a gratifying increase in physicians' incomes that will enable us to keep up our armamentaria, to increase our attendance at medical meetings, to do more graduate study and to continue to keep ourselves better qualified for the service which our people expect of us.

Excepting Maryland, more of our people are served by full time health departments than any other state. As a profession we are undertaking special studies with a view to developing practical plans for the early recognition and prompt curative treatment of syphilis, tuberculosis and cancer and for the reduction of the maternal, infant and child death rate. Such campaigns will necessarily increase the service rendered by physicians and will result in increased usefulness of the profession in the promotion of the health and happiness of our citizens.

To this end we desire during the year to make an intensive campaign to increase membership of the county societies so that every reputable physician in the State will be on the rolls and will be taking part in the work. The Councilors will be increasingly active in promoting more regularity in the meetings of the county societies and in securing for them any outside assistance in building their programs that they desire.

It is important for the members to remember that the JOURNAL belongs to them. It is also important for them to remember that the Quarterly Supplement which is edited, published and paid for by the Woman's Auxiliary without a cent of cost to the treasury of the Association, should be taken to their wives, mothers, or daughters, as this supplement is published primarily for them.

Our members will be gratified, we are sure, at the proceedings of the House of Delegates at Paducah, which were published in the December issue. We have received many letters of congratulations from other states on the excellence of the committee reports.

Arrangements are already under way for the Berea meeting, which will be September 6-9th. We are anticipating the largest meeting in the history of the Association at Berea and Dr. Reynolds, President-Elect, already has preparation of the program under way and will be glad to have suggestions from any interested member as to the subjects that are to be included.

The JOURNAL looks forward confidently to one of the best years in the history of Kentucky medicine in 1937.

REVIEWS OF THE EARLIEST KENTUCKY MEDICAL BOOKS

For many years I have been collecting medical books and pamphlets written by Kentucky physicians printed in the state. It has occurred to me that a review of some of the more important of these earliest publications might be of some interest. Those to whom I have mentioned this idea have uniformly expressed themselves as being quite interested in such a plan.

In recent years medical history has been attracting well-merited attention as evidenced by the increasing number of books and essays which deal with the subject. Our own Dr. J. N. McCormack made an important contribution when he edited: ''Some of the Medical Pioneers of Kentucky'' (Bowling Green: Ky. Med. Journal, 1917) which consists of a collection of biographies and historical sketches. This Journal has had the foresight to reprint the original contribution of Ephraim McDowell (Ky. Med. Jr. XXXI: 7-11, Jan., 1933) and to publish an important article on ''Kentucky Medical Literature'' by Major Edgar E. Hume, M. C., U. S. Army (Ky. Med. Jr., XXXIV: 349-366, Aug., 1936).

The first medical book printed in Kentucky which I have located was a popular household medical adviser by Thomas W. Ruble, M. D. entitled: ''The American Medical Guide for the Use of Families.'' The title page describes it as ''a treatise on all the most useful articles used as medicine, including those which are the produce of our own country'' and ''the art of curing the various diseases of the human body to which is added a short description of the constituent parts of the human body.'' This book was printed at Richmond, Kentucky, by E. Harris in 1810. The second medical book was also of a popular character being Doctor Richard Carter's ''Valuable Vegetable Medical Prescriptions, for the cure of all nervous and putrid disorders.'' This book was printed by Gerard & Berry at Frankfort in 1815. The Index-Catalogue of the Library of the Surgeon General's Office gives the date of publication of the first edition of Carter's book as 1813. However, no copy bearing this date can now be found in this library. My own copy of the book (kindly presented to me by Dr. Alexander Nettelroth of Louisville) has a faulty figure ''5'' in the date which look so much like a ''3'' that magnification is necessary to show it to be clearly a ''5.'' Therefore, I am convinced that the actual date of publication of Carter's book was 1815 and not ''1813'' as shown by the S. G. L. Index-Catalogue.

Much augmented and containing a ''short sketch of the author's life and adventures from his youth until 1818'' another edition of Carter's ''prescriptions'' was printed at Versailles by John H. Wilkins in 1825. Neither Ruble's nor Carter's book deserves serious consideration from a medical standpoint, but from a bibliographical point of view they apparently are the earliest printed Kentucky Medical items. These books must have supplied a need in the early days of Kentucky, sparsely settled with few physicians to care for a growing population.

Carter's reasons for advising many remedies are as follows (page 126, 1815 edition):

''Here, in many places, are many remedies for each disorder, not only because all are not equally easy to be procured at all times and in all places; but likewise the medicine that cures one man will not always cure another of the same distemper, nor will it cure the same man at all times. Therefore, it was necessary to have a variety, so if one fails, there is the other.''

The following plans are suggested to stop the vomiting of blood:

''Take a tablespoonful of sage juice, or the roots and tops boiled and drank every time it takes you; or drink salt and water; or a tea made of the inside of white hickory bark; or a tablespoonful of copperas, put to a quart of spring water, and take a tablespoonful twice a day; or two spoonfuls of the juice of nettles every morning, or a large cup of the decoction of the nettles at night for a week; or tar and loaf sugar; or take as much salt-petre as will lay on the point of a case knife, three or four times a day, dissolved in cold water.''

In closing this brief introduction to Kentucky imprinted medical books, I would greatly appreciate being notified of any published prior to those just mentioned.

Emmet F. Horine.

THE QUARTERLY

With the January issue of the JOURNAL, you will also receive in the same envelope copy for the Quarterly of the Woman's Auxiliary to the Kentucky Medical Association. It is a pleasure to announce that this Quarterly is published four times a year and mailed, without expense, to every physician in the state for themselves and their wives. The complete cost of this publication is borne by its advertisements, which are secured through the activities of the Auxiliary. It is making valuable contribution to the historical side of medicine by its research and publication of the biographies of distinguished physicians in our early history. This year the Auxiliary will be active in locating and collecting the original furniture for the McDowell Home.

It has always been a source of pride to the JOURNAL that it has been able to contribute the Quarterly to its readers without any additional expense.

WHEN THE PUBLIC UNDERSTANDS

The tremendous responsibility of educating the public to appreciate the value of health rests, at least in a reasonable measure, upon the shoulders of practicing physicians. Intelligent people have no desire to be ill; on the contrary, they prefer health at all times, and, when they understand, prefer it at any price.

So long as the spirit of optimism is a dominating factor in human existence and hope fills human hearts, there is little thought given to promoting health and preventing disease; when strength begins to fail and pain drives away refreshing sleep and makes rest impossible, optimism vanishes, hope seems to fade and a sudden realization of impending disaster drives unfortunate victims of failing health to seek a physician.

Even then physicians are handicapped by the inability of patients to follow instructions necessary to accomplish the desired cure, or, what is still more discouraging, patients may refuse to cooperate with medical advisers over the specified period of time. Such experiences are not uncommon among practicing physicians in Kentucky.

When the public understands the value of medical advisers in charting the course in life best calculated to ensure freedom from pain and debilitating diseases, it will not be difficult to persuade our people to use physicians as advisers. Then prevention, not cure, will become their watchword.

When the public understands that diphtheria can be prevented by the intelligent use of biologicals in the hands of their family physicians, we will not continue to bury, each year, approximately three hundred children dying from this preventable and curable disease.

When the public understands that many cases of disabling heart disease are the result of neglected childhood infections, parents will be more prompt to call their family physicians and will more often follow their advice.

When the public understands that tuberculosis, our leading cause of death in the active period of life, is a preventable, controllable and curable disease, when found early, and that physicians are ready to cooperate with other groups in a tuberculosis control program, it will not be difficult to get parents to take advantage of the tuberculin test and the X-ray for early diagnosis. The children will be willing to follow instructions. High school and college students, the groups most vulnerable to the ravages of tuberculosis, will place health above all else and do their part in bringing the disease under control. Educational, civic, political and social groups will join the fight, funds will be supplied, and tuberculosis will cease to be "Public Enemy No. 1" in Kentucky.

These, and many other good things, will come to us, when the "Public Understands."

A NEW X-RAY MACHINE

We desire to congratulate the Kentucky Baptist Hospital on its recent installation of a valve tube diagnostic and therapy X-ray equipment made in Kentucky by the Kelley-Koett Manufacturing Company. The therapy treatment consists of oil immersed X-ray tubes that will be energized with 400 k. v. Such an installation gives distinct additional facilities. It seems to have been clearly proved that it has increased the range of sensitivity to the higher radiation resistant tumors.

It is a pleasure to know of such continuous advances in the scientific equipment of the hospitals of Kentucky.

HONORS TO OUR DOCTORS

Dr. A. T. McCormack, State Health Commissioner, and Secretary of the Kentucky State Medical Association, was elected President of the American Public Health Association at its recent meeting in New Orleans.

Dr. A. A. Shaper, Louisville, was certified by the American Board of Pediatrics at its recent meeting in Cincinnati.

Dr. Lillian H. South was appointed Historian for the Women Physicians of the Southern Medical Association at the Baltimore meeting.

Dr. F. W. Rankin, Lexington, was elected President of the Southern Surgical Association at its recent meeting in Biloxi, Mississippi.

We hope to make similar announcements, from time to time, as our members receive signal honors.

SYPHILIS FROM THE STANDPOINT OF PUBLIC HEALTH*

James E. Paullin, M. D.

Professor of Clinical Medicine, Emory University, Atlanta, Georgia.

Among the various obligations of local, state and national governments is that of the protection of the public health. In the event a communicable disease makes its appearance, particularly a disease with a potential crippling disability or with a high mortality, the public demands of the medical profession and the authorities of local, state and national governments that immediate steps be taken to discover the source of infection, to stop its spread to other communities and citizenry, and to establish means for the cure of the malady. Witness what would happen today in this community, if tomorrow morning your board of health reported the presence in this city of ten patients with bubonic plague, yellow fever or poliomyelitis. Immediately the citizens would look to the medical profession and to their local and state health authorities to establish necessary measures, primarily for the isolation and prevention of the spread of these diseases. In carrying out these demands of the public, certain routine procedures would be utilized by the public health authorities. The cooperation of every physician would be asked in the immediate reporting to the health officer of all patients with even suggestive symptoms or signs of the suspected disease. Furthermore, the local newspapers would carry authoritative information concerning the cause, the method of spread, and the early symptoms of such a disease; the public would be informed of its nature and they would be advised to seek medical advice at once, should certain symptoms make their appearance. By the adoption of such a program many of the communicable diseases have been reduced as to incidence—such as diphtheria, scarlet fever, whooping cough, smallpox, typhoid fever, etc. Among the chronic infections such as tuberculosis, look what has been accomplished in the astonishing and remarkable reduction in its incidence and mortality within the past decade. If such has been accomplished with these diseases, why not continue the program with renewed vim and energy, and attack with equal force and with the same methods all communicable diseases.

Success in controlling any communicable disease is due almost entirely to knowing the causative organism, finding the sources of infection, determining its method of spread, discovering a curative treatment, and the adoption of the best possible methods for breaking one or all links in this chain of events. For the effective working of such an undertaking it requires the harmonious, thoughtful, intelligent cooperation of medical practitioners, public health authorities, the public, and the constituted authority of government. These groups are mutually dependent, one upon the other, working together as a team, spectacular results can be obtained, working as individual units, without coordinated effort, very little can be accomplished. Tonight I, as a clinician, not as a public health authority, not as a syphiologist, but as an internist and an active practitioner of medicine, who is interested in the prevention of disease, the prevention of suffering, the prevention of disability, the reduction of mortality, and the promotion of the health and happiness of all the people, am directing your attention to the biggest and most devastating problem involving the public health. It is your problem, it is my problem, it is a problem of the taxpayer, a problem from the humanitarian standpoint involving every citizen of the United States, from the highest to the lowest, from the wealthiest to the most indigent.

Syphilis is one of the most communicable diseases about which we know a great deal, we know the causative organism, we know that it is transmitted by direct contact and not through an intermediary host, we know how to make an early diagnosis, we know how to stop its transmission, we know its prevalence, we know its devastation, we know effective methods of cure, so why not then courageously prepare to combat this insidious, treacherous monster?

Syphilis, like gonorrhea, is a disease which in the public mind has always been intimately associated with prostitution, vice, and immorality and because of this intimate association it has been considered unbecoming to speak of it in public gatherings, over the radio or to write of it in newspapers. At most medical meetings attention is usually centered about the late, incurable manifestations of the disease and very little is ever said about the importance of the early recognition and adequate treatment of the initial lesion. While it is true that from 50 to 60 per cent of the patients with syphilis contract the disease from prostitutes or clandestine love affairs, the others get the disease innocently; why should the innocent ones not be educated and instructed. In these days of so much publicity and advertising given over to feminine hygiene, birth control, the best contraceptive methods, the influence of sex on the personality, etc., we believe that it will not now be very long before the public will demand that authoritative information concerning venereal diseases be publicly broadcast.

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*Read before the Kentucky State Medical Meeting at Paducah, Oct. 5, 6, 7, 8, 1936.

The United States Department of Public Health, in cooperation with many interested organizations and physicians, has attempted to collect data concerning the prevalence of syphilis. Because of the nature of the disease, the stigmata connected with it, and the unwillingness of physicians to report all cases, I am convinced that this data underestimates its true prevalence. For the same reasons, it is not possible to paint a true picture of the havoc which is wrought by this infection in producing and prolonging disability and in causing many deaths, however, the data as accumulated is astonishing enough to demand action. The major catastrophes at the present time in furnishing high death rates are heart disease, pneumonia, cancer and syphilis —the latter, a constantly and steadily increasing menace, adding each year a greater and greater number of dependents to be cared for by private or governmental supported institutions.

In considering syphilis from the standpoint of the public health it is necessary to distinguish between early and late syphilis. The early syphilitic (the case having the infection less than one year) is the one who is capable of transmitting the disease and in any control program he is the person who must be most thoroughly treated and most closely watched. Those with late syphilis (after one year) are not so dangerous from the standpoint of communicability but a considerable percentage of them add to the burden of invalidism, and cause mounting expenditures of public funds for their care.

The United States Public Health Service estimates that 1,140,000 patients annually come under treatment for the first time, of whom 518,000 have early syphilis and 596,000 have late syphilis. It is also estimated that 4.3 per cent out of 1,000 people in the United States are constantly under medical care for syphilis, making an approximate total of 683,000 patients. The annual incidence of fresh infections is 4 per 1,000 or approximately 518,000 persons. Usilton says between the ages of 16 to 20 years, 4 out of 100 males acquire syphilis and at least one of these will be added to the ever accumulating group of active syphilitics. The other three will obtain either a ''spontaneous cure'' or protection by a sufficient amount of treatment against the late disabling manifestations of the disease. In the two succeeding 5-year periods twice as high a rate of infection exists; 8 per 100 males acquire the disease and there will remain at least 2 patients per 100 in each of these age groups who will have, either then or at some succeeding time, an active manifestation of syphilis. Thus one half of the infections are between 20 and 30 years; the rate of infection is highest in men, 6 for every 4 women; four times as high in the cities as in the rural areas and six times as high among Negroes as whites.

There are approximately 186,000 potential mothers in this country with active syphilis, which will result in one of the disasters of pregnancy four times as frequently as in the non-syphilitics. Syphilis, thus innocently acquired by the mother, is passed along frequently to the innocent children who, if they live, must in turn undergo prolonged treatment or suffer the disasters of the disease.

Syphilis also causes approximately 15 per cent of the diseases of the heart and blood vessels, about 11 per cent of the insanities and feeble mindedness—to say nothing of the other late and disabling manifestations.

It is not my intention to burden you with a large mass of statistical data concerning the presence of syphilis in various parts of the country—the data is quite similar in all respects. The incidence is higher in those cities with a larger Negro population and it is higher among the ignorant than among the educated. During the year 1935 the reported case rate for Georgia was 243.2 per 100,000 population, which was greater than the combined rates of diphtheria, measles, scarlet fever, meningitis, smallpox, typhoid fever and tuberculosis. Of 76,564 Wassermann reactions reported by the State Board of Health, 13,316 or 17.4 per cent gave positive results. At the Grady Hospital, the municipal hospital of the City of Atlanta, during the year 1935, 30,205 Wassermann reactions were done on in and out patients of the hospital—of these, 11,154 were on whites with 6.43 per cent positive and 19,051 on Negroes with 25.08 per cent positive. From August 1934 to July 1936 inclusive, there were admitted to the medical wards of the colored division of Grady Hospital 2,956 patients; of these 19 per cent had positive Wassermanns on the blood or spinal fluid. Of this number 116 or 4 per cent had cardiovascular syphilis and 2.6 per cent had syphilis of the central nervous system. At the venereal disease hospital, conducted by the City of Atlanta Health Department in the year 1935, a total of 1375 early primary lesions were recognized. It is safe to assume that at least 2500 others were infected from these. What is true of the existence of syphilis in Georgia and Atlanta is true for any other state or city. Are these figures then not impressive enough or not of sufficient importance to arouse the medical profession, the public health officials, and the public to the greatness and the necessity of all three making a concerted and determined effort to effect its eradication

Having outlined the problem needing attention, what can be done and what should be done about it? This phase of the question can best be approached by considering separately the part which is to be taken in a program of control by each of the three interested groups: (a) the practicing physician, (b) the public, and (c) the public health authorities.

The Obligations of the Medical Profession

(a) Of great importance is a campaign of education among physicians, beginning in the medical schools and extending into every county, district and state medical association; stressing the importance of the early diagnosis of syphilis before the blood gives a positive Wassermann reaction. Such a diagnosis can be easily and accurately made by using the dark field in searching the serum or scrapings from any and all suspicious lesions for the spirochaeta pallida. It should be part of the instruction in all medical schools to teach students how to make these preparations and how to make these examinations.

(b) Routine Wassermann reactions should be done on every patient who consults a physician for any cause, and should constitute a part of the physical examination. I have followed this practice for the past twenty-five years and have never had the slightest occasion to regret it. It should be realized that the Wassermann reaction is only 80 to 90 per cent efficient in any stage of the disease.

(c) Physicians and patients must be impressed with the fact that the earlier the diagnosis is made when the blood is sero negative, the chances of a cure are greater than when the blood becomes sero positive. In the sero negative stage the average number of cures is 71.4 per cent, with best results in this stage from 83 to 84 per cent. When the patient's blood is sero positive, the chances for cure diminish to an average of 53.3 per cent with best results of 64 to 70 per cent. (Moore).

(d) All physicians who treat patients with syphilis should become familiar with "The Standard Treatment Procedure in Early Syphilis" compiled by Stokes, Cole, Moore, O'Leary, Wile of the cooperating clinics and by Parran, Vonderlehr and Usilton of The United States Public Health Service. (Obtained either from U. S. P. H. Service, Washington, or Journal A. M. A., Chicago). Unless a physician is familiar with this report or unless he has developed a method of treatment which is as good or better than that recommended, he should adopt this method as giving, up to the present time, the greatest number of cures. Too long have we as physicians been inclined to pass as inconsequential suspicious lesions in many of our patients and too long have we been more or less lackadaisical about intensive treatment when the disease is discovered.

(e) The physician must further spend more time with a patient who is discovered to have syphilis in order that the nature of the disease can be explained to him; its communicability must be stressed, measures necessary for its control must be taught and the necessity for adequate treatment must be insisted upon. All of us spend a great deal of time in giving instruction to a patient with heart disease or with diabetes, why then shouldn't a syphilitic be instructed as thoroughly since he not only can be saved from harming himself but also many others.

(f) Physicians engaged in private practice should see that all patients who have syphilis should receive sufficient treatment. This may be accomplished with some difficulty and may require the expenditure of considerable energy on the part of the doctor, however, the returns received amply justify the trouble.

(g) The prevention of the disasters of pregnancy is a responsibility resting entirely upon the shoulders of the medical profession. McCord in a recent study of 2150 cases of syphilis and pregnancy has clearly demonstrated that with mild, continuous ante partum treatment, begun not later than the fifth month of pregnancy, consisting of at least ten or better, more injections of arsphenamine, the woman is assured of a syphilis free baby in 95 per cent of the cases, and that such therapy is safe for the mother.

The Obligation of the Public

The next step necessary in the control of this disease is the necessity of public education through talks, the printed page, the movies and over the radio. Children from 15 years upward should be instructed concerning this disease. Organized medicine and the public health service have done very little in furnishing authoritative information concerning syphilis to the public. They should be told that it is no respecter of society, it affects innocent women and children as well as others. We seem to have developed a conditioned reflex about syphilis which prevents its discussion. Wholesome methods of living and thinking should be stressed and the avoidance of infection emphasized. It should be taught that frequently primary and secondary lesions pass unnoticed, more often in women than in men, and that less than 50 per cent of those infected seek competent care. They should be taught that patent medicines, quack doctors, and drug store treatment are usually worthless and may be the means of keeping them from complete cure. The public must demand that constituted authority be given the medical profession to enforce upon all early syphilitics a sufficient amount of treatment to keep them from spreading the disease and if necessary, in those who are belligerent, the institution of proper quarantine. The public must cooperate in helping to support worthwhile, well conducted, properly supervised clinics under the control of the medical profession for the adequate treatment of every indigent person with this disease.

THE OBLIGATIONS OF THE PUBLIC HEALTH SERVICE

(a) From the public health standpoint no program for the control of syphilis can be acceptable or worth while unless there is a well qualified, well trained officer at the head of this department. He must be an individual who has had considerable experience in handling patients with syphilis and who has a type of personality which will mix and mingle with the medical profession in a friendly and cooperative manner. The venereal disease officer need not necessarily be an individual separate and distinct from the department of communicable diseases established by city, state, or national governments.

(b) This officer should be able, because of his clinical experience, to act in an advisory capacity to other physicians who might seek his advice. He should be well acquainted with all of the factors concerning the epidemiology of this disease.

(c) Health departments should furnish to physicians all facilities for the immediate diagnosis of syphilis, these to consist of dark field examinations of material from suspected lesions and Wassermann tests on the blood of suspected individuals. The health officer can be of a great deal of value in stimulating physicians and impressing upon them the importance and the urgency of immediate diagnosis of early syphilis and of immediate and sufficient treatment so soon as the diagnosis is made. Statistical data which have been gathered by the cooperating clinical group show that 84 per cent of all patients with early syphilis discontinue treatment before they are rendered permanently non-infectious. This then is one of the most important phases to be undertaken by the public health officer. If in clinics and in private practice such an astonishing number of patients with early syphilis, do not receive sufficient treatment to render them permanently non-infectious, how else can this be improved except by appealing directly to the public health authorities.

Moore, in a recent article, has made the statement that 50 per cent of the patients with syphilis can pay nothing for their treatment; 30 per cent can pay something; 20 per cent can pay a private physician. In other words, the 50 per cent who perhaps spread the disease most frequently are unable to pay for any form of treatment. This means that they must become charges of city or state institutions and it is an obligation of the authorities to see that they are rendered medical care. This can be done thoroughly and efficiently provided public clinics at the expense of the community are established, which are properly supervised and properly conducted for the treatment of this disease. There is nothing new about such a procedure. Practically all cities, a good many counties, and quite a number of states have erected institutions for the care of those with contagious diseases. There are hospitals for the treatment of tuberculosis at public expense, there are hospitals for the treatment of the insane and the feeble-minded at public expense, and there are contagious disease hospitals for the treatment of diphtheria, scarlet fever and smallpox at public expense. Many states and cities at the present time have public clinics for the treatment of venereal diseases. The history of these clinics is that they are overcrowded and in the majority of instances, no facilities are available for accurately following patients. The personnel is so busy giving treatment that it is impossible for proper instruction concerning contagiousness and other necessary information to be given these patients. It is the duty and the obligation of the local public health service, in cooperation with the medical profession, to assume this responsibility just as it is their obligation to assume responsibility for other contagious diseases and to institute a program to see that it is carried out effectively. The 30 per cent who are able to pay something are also an obligation of the organized medical profession. Clinics can be established by physicians in cities or counties in cooperation with the Public Health Service which can be run on a cooperative basis, for which the physician who renders the service will receive some compensation for the work that he does. It is the duty of the public health officer to respect the rights of the private practitioner of medicine in controlling the problem of syphilitic infection. On the other hand, there is as great an obligation on the part of the private practitioner to see that all persons who have syphilis and who cannot pay for private care should receive adequate and sufficient treatment to give them the best possible chance to recover from this disease.

The problem as it exists today is a tremendous one. As I have stated before, with united and concentrated and vigorous effort on the part of all three organizations interested in this matter: i. e. the medical profession, the public health officials, and the public, within twenty to thirty years the prevalence of this disease can be greatly diminished.

It is only necessary to direct your attention to the remarkable results which have been accomplished by such a comprehensive program as is well illustrated in the control of syphilis which has taken place in Norway, Sweden and Denmark, and to a lesser extent in Germany and England. For the past sixteen years in these countries syphilis is becoming a rarer disease. In Sweden in one year there occurred only 431 cases as compared to upstate New York (exclusive of New York City) where 1836 cases occurred in one month (Parran). Such a reduction in incidence can be accomplished in this country provided we follow the suggestions as emphasized by Parran:

1. Find syphilis.
2. Treat syphilis promptly and efficiently.
3. Examine for syphilis the family and all contacts of the syphilitic.
4. Prevent the birth of syphilitic babies by requiring Wassermann tests before marriage and during pregnancy.
5. Teach the facts of syphilis to all the people.

The statistical data in this paper has been assembled from publications of the U. S. Public Health Service, Dr. Thomas Parran, Surgeon General, Reprint No. 51, Reprint No. 13, Reprint No. 54, U. S. Public Service; the data for Georgia has been contributed by Dr. T. F. Abercrombie, State Commissioner of Health; for Atlanta by Dr. J. P. Kennedy, City Health Officer; and from the Grady Hospital by Dr. Holler, Resident Physician.

Blood Wassermann tests do not become positive until two or three weeks after the appearance of the chancre. To make a diagnosis of syphilis in this sero-negative stage one should resort to dark-field examination of the living spirochete in the serum obtained from the "initial lesion." The earlier the diagnosis is made in the sero-negative stage and the sooner specific therapy is instituted the better the prognosis.

FRACTURES OF THE UPPER EXTREMITIES*

E. W. Northcutt, F. A. C. S.
Covington.

There have been many changes in the treatment of fractures during the past few years. Usually these changes have meant definite progress toward the desired results namely, return of the individual to his former status as nearly and as soon as possible. Most of the new developments have for their purpose correct apposition and immobilization of the bony fragments.

Important as these are there are other factors essential to the best care of the patient who has a fracture of an extremity. One must consider the individual as a whole, he must strive to maintain normal motion in the joints not immobilized and to regain normal motion in the joints necessarily immobilized as early as can safely be done.

A comprehensive knowledge of anatomy is essential to the proper treatment of fractures, muscular attachments, the direction of their pull, and the relation of nerves and blood vessels that may be injured.

This paper will be limited to a discussion of fractures of the upper extremity. No attempt will be made to describe all the different methods of treating these fractures, or to give all the details of any method; but an attempt will be made to point out some of the principles that should be remembered in applying any method of treatment.

Fractures of the phalanges: Not enough consideration is given fractures of these bones. They are often regarded as trivial but may interfere considerably with the normal use of the hand. The chief movement here is flexion, the greatest strength is in flexion and, all of these bones have a slight arch with the concavity toward the flexor surface. Therefore a fracture here should be treated in flexion. If it is treated in full extension or hyper-extension as is sometimes done this natural arch is destroyed and full flexion cannot be obtained. In simple fractures the flexion position may be obtained by drawing the finger over a well fitting firm pad fixed in the palm of the hand, or over a molded plaster splint covering the flexor surface of the forearm and extending down over the fractured phalanx which is held in the proper degree of flexion. This part of the splint should be padded.

Often these fractures are compound with extensive damage to the soft tissues. Because of these injuries to the soft tissues it is usually unwise to apply splints directly to the tissues. In these cases a plaster cast of the forearm in which is incorporated a wire loop forming a banjo splint is useful. A heavy needle can be drilled through the distal phalanx and fixed to the wire loop by a thread and rubber bands, and the loop bent to the proper angle to maintain the desired position. This will allow proper treatment of the compound injury.

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*Read before the Campbell-Kenton County Medical Society.

Fractures of the meta-carpals may be treated by simple immobilization if the position is satisfactory. If there is marked displacement of the fragments it should be corrected. It is often difficult or impossible to correct the displacement by the closed method. In such cases operation should be done, and the fragments fixed in position because, if left alone they will be quite disabling.

Fractures of the carpal bones: Because of the large amount of articular cartilage and cancellous bone, the comparatively poor blood supply and the presence of synovial fluid fractures of the carpal bones unite very slowly or often not at all by bony union. They require immobilization over a comparatively long period of time. Because of the mortise-like articulation of these bones it is often difficult or impossible to reduce a fracture in which there is displacement of the fragments. Complete removal may be necessary.

Fractures of the radius and ulna are divided into fractures of the lower end, the shaft and the upper end. They are of many types and may be accompanied or followed by various complications. Most fractures of the lower end are of the extension type. These are more easily reduced than the flexion type. Fractures of the shaft may involve one or both bones and, may be single or multiple. Often they require open reduction even when only one bone is involved. However, an attempt should be made to reduce them by the closed method first.

If multiple fractures exist in the shaft of both bones it is often a good plan to disregard the distal fractures until the proximal ones are reduced, and molded plaster splints applied that reach to a point just proximal to the distal fractures. After these splints have hardened sufficiently the distal fractures may be manipulated without displacing the fragments of the proximal fractures. Splints can then be applied that cover the first ones and extend down over the distal fractures as far as may be necessary.

In fractures of both bones the elbow should be immobilized. For this the sugar tong splint is simple and very satisfactory. This is made of a single strip of plaster that begins at the meta-carpo phalangeal joint on one side of the hand and passing around the elbow ends at that joint on the other side. The elbow is held in about forty degrees flexion. The splint is molded snugly but gently to the elbow and forearm without padding. By extending only to the meta-carpo phalangeal joint allows free use of the fingers, this is important and immobilization of them is not at all necessary.

The more important fractures of the upper end are those of the head of the radius, and the olecranon process of the ulna.

Many fractures of the head of the radius do not even require immobilization, for example, a transverse fracture without displacement or with slight impaction. If there is displacement of the head it is best treated by removal at once. Immobilization with the forearm in flexion should be carried out for about two weeks, after which active motion is started.

Fractures of the olecranon with little or no separation of fragments may sometimes be put up in hyper-extension by the closed method. Most cases with separation are best treated by operation with internal fixation, using wire, kangaroo tendon, or good chromicized cat gut. Immobilization with the forearm in flexion should be carried out for two or three weeks after which active motion is started. Splints may usually be discarded after six weeks.

In those cases in which it is necessary to immobilize the elbow in extension motion should be started at the earliest moment and persisted in because if it is kept up in extension too long it is sometimes very difficult to secure sufficient flexion for a useful arm.

Fractures of the humerus are divided into those of the lower end, shaft, and upper end. Because of the lack of time only three types will be mentioned.

The transverse supra-condylar fracture. This may be subdivided into the extension and flexion types.

The extension fracture is produced usually by a fall with the forearm fully extended or flexed to an angle of about ninety degrees, striking on the palm of the hand, the force being transmitted through the ulna and radius. The lower fragment is displaced upward and backward—often with more or less lateral displacement. Lateral radiograph will usually show an antero-posterior obliquity of the fracture line extending from above, downward and forward. This renders reduction less difficult. Reduction is maintained with the forearm in flexion, the degree of which depends largely on the size of the arm, and the amount of swelling present.

The flexion type of fracture is produced with the arm in flexion, the force coming on the elbow and extending forward and upward. The lower fragment is displaced forward and upward, and the lateral radiograph will show an obliquity of the fracture line extending from above downward and backward. This fracture may be very difficult to reduce. It is often impossible to maintain position with the forearm flexed. If displacement recurs it should be put up with the forearm extended, or it should be fixed by operation.

Fractures of the internal condyle with displacement: Because of the effect it may have on the carrying angle and the danger of involvement of the ulnar nerve this fracture often constitutes a real problem. The wanderings of this small fragment may be difficult or impossible to control once it is torn loose. In such cases operation should be performed, and the fragments fixed with a screw, nail or other method of internal fixation.

Fractures of the surgical neck: These usually result in satisfactory function even when the anatomical result is poor. The element of difficulty in this fracture is due to the inability to control the proximal fragment. Efforts are directed to manipulation of the distal fragment into apposition and alinement with the proximal fragment in the position the proximal fragment assumes following the injury.

The dressing may consist of a triangle under the arm, a Thomas splint, an areoplane splint or any other that may appeal to the individual treating the fracture, that is comfortable to the patient, and that will maintain the desired position. Operation is seldom necessary.

In the treatment of any fracture of the upper extremity it is seldom necessary to give a general anesthetic. Local anesthetic has advantages the enumeration of which time does not allow. Many or all of these advantages are familiar to you.

With the better understanding of the cause of failure in the operative treatment of fractures, and the improved methods of avoiding these causes the operative field is increasing.

Operation is certainly not indicated in every fracture. Judgment here is just as valuable, and just as necessary as it is in many of the other perplexing problems in medicine and surgery that daily beset us. However, if a fracture cannot be properly reduced or if it cannot be maintained in position after being properly reduced operation is indicated, and should be done.

INTRA PARTUM INFECTION DUE TO THE BACILLUS WELCHII WITH CASE REPORT*

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The first case of puerperal infection due to the gas bacillus, which was reported, was in 1597. In 1928, 331 years later, according to Toombs, there were 45 cases reported. At the present time only eight years later, there are at least 20 more cases reported, and reference is made to numerous others in discussions of case reports. In addition there has been stimulated a great amount of investigation as to the biologic findings of the Clostridium Welchii, and especial attention has been paid to their relation to puerperal septicemia. In practice gas gangrene is generally attributed to the presence of B. Welchii, and this well known species occurs in the literature under four names. The organism was discovered first in 1892 by Welch and Nuttall. In the English literature it is most frequently referred to as B. Welchii. Frankel discovered it independently in 1893, and in the German literature it is still referred to as the Frankel bacillus. It was discovered again independently by Veillon and Zuber, in 1897, in France, and named by them B. perfringens.

According to Hiss and Zinsser it is practically never in pure culture and is usually associated, besides aerobes, with other anaerobic bacilli, which may be more pathogenic than B. Welchii. The difficulty with which pure cultures are isolated and the comparatively recent date that this difficulty was overcome makes us realize that the earlier literature contains many inaccuracies.

In Toombs' review of 45 cases in 1928 he analyzed completely his series of cases and drew a clinical picture. He divided them into, first, the abortion group which comprises about 61 per cent of the total number of cases and, second, the non-abortion group which comprises about 39 per cent. The latter group he subdivides into subgroups.

a. Contracted pelvis 7.29 per cent. b. obstruction due to myoma 2.43 per cent; c. protracted labor 7.29 per cent; d. death of the fetus 2.43 per cent; e. transverse presentation 7.29 per cent; f. breech presentation 2.43 per cent; g. normal 7.29 per cent; and h. unclassified 2.43 per cent.

It is generally agreed that when the first stage of labor is prolonged and there is frequent intra-vaginal and intra-uterine manipulation the chances of infection are far greater, and of the cases reported such conditions were present in over 95 per cent. Wrigley states that the infection is usually found in cases where the fetus has been dead for some time, and that severe and fatal cases usually follow intra-uterine manipulation. Adams reports in the British Medical Journal such a case, except that no intra-vaginal examination was made until after the fulminating symptoms had developed.

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B. Welchii is normal inhabitant of the intestinal tract of adults and Simonds found it present in 8 out of 19 stools of babies under 1 year of age.

Schottmuller contends that the organism is occasionally found in the vagina of normal healthy women and that autoinfection is possible. This belief is substantiated by the investigations of two Chinese who grew the organism from stools of 46 unselected cases on Obstetrical and Gynecological services. The degree of toxicity was shown to vary in different patients, and in the same patient on different days. The development of gas bacillus infection depends on the virulence of the strain of B. Welchii, the amount of dead tissue present and the anaerobic conditions in the wound.

Of cultures from the stools from 59 normal delivery cases 38 grew nontoxic B. Welchii and 21 grew toxic bacilli. Of vaginal cultures from 54 of these cases only 2 or 3.9 per cent grew B. Welchii, and each of these strains agreed with the toxicity of the corresponding stool. This would indicate fecal contamination. Twenty-one perineal sutures were cultured and 10 or 47.61 per cent grew B. Welchii, all but 2 of these corresponded with the stool cultures in toxicity.

In a series of abortion cases 50 per cent were found to harbor B. Welchii in the genital tract, and of 14 positive cases 10 of these agreed in toxicity with the culture from the stool.

Infection therefore, may be acquired by fecal contamination, recent or previous, or by lack of asepsis in intravaginal work. The organism occurs in animal as well as human feces in naturally fertilized soil, garden soil, street dirt, and on anything that may be contaminated thereby. Criminal abortions and operative procedures facilitate the implantation and the multiplication of the B. Welchii in the uterus by producing trauma and necrotic tissue which is deficient in supply of oxygen and favorable to the growth of the organism.

Puerperal septicemia caused by the B. Welchii is very fulminating in character. Over 50 per cent of cases die within four days after infection takes place.

Toombs enumerated the classical symptoms of severe cases which are vomiting, pain in the abdomen and jaundice. Each are present in about 50 per cent of severe cases. Chills occur in one-third of the cases and diarrhea in 20 per cent. Cyanosis usually follows jaundice which is due to the hemolysis of the red blood cells caused by the hemotoxin liberated by the organism. Emphysema occurs in about 15 per cent of cases.

Laboratory findings: Usually there is scanty urine, albumen is present in about 20 per cent of cases. The W. B. C. ranges from 10,000 to 125,000. The R. B. C. usually drops to around 2,000,000 and the hemoglobin to below 50 per cent in severe cases. Heim emphasizes the findings in the puerperal blood of pathologic bone marrow cells which he claims are only observed in cases of pernicious anemia and gas bacillus sepsis.

Unfortunately the classical symptoms occur only in the severe advanced cases. The diagnosis of the milder cases is best made by taking cultures routinely in cases where the conditions are favorable for the implantation and multiplication of the organism.

Treatment: In the severe cases consists in early recognition of the infection and extirpation of the uterus, combined with large amount of specific antitoxin.

This should be supplemented by blood transfusions because of the hemolysis of gas bacillus infection and the shock incident to the trauma. Radical procedures are suggested only in the severe cases. In the mild cases the uterus should be left alone so as to avoid manipulation and a breaking down of nature's wall of defense. Intra-uterine injection of a mixture of glycerine $MgSO_4$ and mercurochrome compound solution has been suggested. This hypertonic solution favors the outflowing of lymph and prevents to a certain extent the absorption of the toxin from the uterus.

The following case is one in which the conditions favorable for a gas bacillus infection were present. Unfortunately blood culture and smear and culture from vagina were omitted and diagnosis was not made until post morten examination.

Case Report: H. C. White para III, gravida II, age 44 years, at term by menses July 8th, 1935. She had not attended the prenatal clinic and her last pregnancy was 11 years previously. The patient stated that 5 years ago she was told that her blood pressure was 180 and she had headaches during most of that time. She was admitted to the obstetrical ward of the Louisville City Hospital on April 11, 1935. A week previously she had a pain in the epigastrium and about the same time sudden dimness of vision. For four days she had pains in her back. The vision remained blurred. Upon admission her temperature was 98.6 degrees, pulse 90, respiration 22, blood pressure 240-120, no edema, eye grounds showed old sclerotic placs of retina. There were no areas of recent hemorrhage, albumen was three plus, and microscopic examination showed finely granular casts. Urea clearance test 35 per cent (normal range 80-120 per cent) N. P. N. 30. The uterus was about the size of a 6 month's pregnancy. F. H. 158-min. Routine eclamptic treatment was instituted immediately but without success. Blood pressure remained about 230-125 and albumen two plus. On April 15th urea clearance test 35 per cent N. P. N. 24. Induction of labor was thought advisable and at 11:30 a. m. on April 15th under caudal anesthesia and with aseptic technique a No. 4 Voorhees bag was inserted through a long, rigid, cervix, with old bilateral laceration. The canal at first would not admit the tip of one's finger. It was slowly dilated manually, sufficiently to insert the bag, but rupture of the membranes was not accomplished. At 1 p. m. the bag had collapsed due to a leak, and without anesthesia it was reinserted at 3:30 p. m. No fetal heart tones were heard at this time. The patient complained of continuous pain in the sacral region and was relieved with morphine. At 11 a. m. on April 16th she had a chill after which her temperature rose to 102 degrees, pulse, 120 B. P. 170-100 no F. H. T. The bag was removed and at 1:30 p. m. a 15 oz. macerated fetus was delivered. The placenta was expelled twenty minutes later. The blood loss was 100 c.c. 500 c.c. 20 per cent glucose was given I. V. At 2:30 p. m. the B. P. dropped to 118-60 and the patient was perspiring profusely. Thirty minutes later the blood pressure was 100-60 P. 100. She was treated for shock but did not respond. 750 c.c. of 5 per cent glucose was given. At 6:40 p. m. 1 c.c. Pituitrin (S) was given and the B. P. rose to 125-80. It was reported at 8:40 p. m. and at 10 p. m. the B. P. was 145-100, patient vomited at this time. At 1 a. m. April 17th the B. P. dropped to 95-55. The patient's skin and conjunctiva became markedly jaundiced and she was comatose. N. P. N. was 34.8. Icterus index was 80. Glucose was again administered. At 11:30 a. m. the patient died. An abtract of the Pathology report is as follows:

There were petechiae in the skin of the thorax, in the posterior axillary regions, slight jaundice all over the body, no edema. The conjunctivae were jaundiced.

Abdomen: There was about 100 c. c. of slightly cloudy fluid in the pelvis. No fibrin on any intestinal coils and they were free from adhesions except where the sigmoid was adherent to the left ovary. The uterus was smooth, firm and apparently not inflamed. The liver edge was 12cm. below the zyphoid process and 4 cm. below the costal margin in the midclavicular line. The spleen was enlarged and free of adhesions. The heart appeared enlarged and a little softer than normal. There was crepitation in the epicardium. A small bit of muscle snipped off showed numerous minute focal necroses, visible as small white spots with black centers. The muscle was pale, yellow and loose in structure. The lungs were air-containing; no pneumonic consolidations. They were somewhat edematous.

The abdominal aorta showed slight atheroma and some staining of the intima by hemo-globin, which might be post mortem staining as result of jaundice. The spleen was about normal in consistency, considerably larger than normal, very dark red pulp and presented a picture of subacute passive congestion, of moderate degree. The fluid which oozed from it contained some gas bubbles. In the rectum there were some minute hemorrhages apparently recent and located in solitary lymph follicles. There were also some very small hemorrhages similar to these in the transverse colon.

The liver was considerably larger than normal and very soft. The capsule was smooth and thin. Through it was seen a number of soft, white irregular blotches, having black points, possibly old hemorrhages at their center. On the under surface there was a very soft area beneath which fluid and gas were seen to move. There were a number of these areas on both upper and lower surfaces of the liver. On section the liver was seen to be a yellow-brown in color and to be riddled with areas of necroses, the tissue being ragged and honey-combed, bubbling with gas and containing blood and edema fluid. The odor was definitely butyric. The smaller areas of necrosis were visible as yellow honey-combing and still earlier, as yellow areas with black center. The older areas showed the extensive destruction of tissue described. Hemorrhage was slight. There appeared to be hardly any liver substance that was not swollen and spongy though it was not all actually necrotic. The organ would float in water.

The gall-bladder contained thick, dark bile, full of gas bubbles.

The tip of the omentum was adherent to

the left tube and ovary where they were attached to the sigmoid.

The adrenals showed partial post mortem lysis of the medulla. The kidneys felt tense. Capsules stripped easily revealing a smooth surface, diffusely spotted with minute yellow, irregular spots, apparently of necrosis.

On section bulging was seen and there was rather general pallor with loss of distinction in the markings. The white spots of necrosis were more numerous in the medulla than in the cortex. The picture was one of acute degeneration. No gas bubbles were seen.

The vagina wall was soft and thin and the mucosa was torn. The cervix was deeply lacerated, ragged, soft, and brown in color. The lower uterine segment was thinned and was easily torn. The lining was ragged, necrotic and pink. There was not any butyric odor or gas here.

The wall of the uterus was thickened and spongy. The veins at the cervical end were thrombosed. The endometrium was ragged with attached decidua.

The tubes were not remarkable except that the fimbriated end of the left was adherent to the sigmoid. Both ovaries were a little enlarged, soft, pink on section; a corpus luteum was seen in the left.

A smear from the liver substance made at the time of autopsy, showed Gram positive rods, resembling the gas bacillus. Cultures from the liver, uterus and gall bladder showed Clostridium Welchii.

Microscopy: The heart showed small colonies of coarse bacteria present in the subepicardial fat and in the myocardium. The colonies lay in relationship to bubbles of gas.

The spleen showed severe acute passive congestion. Small areas of recent necrosis. Large gas bubbles, some with imperfectly defined colonies of bacteria.

The liver was extensively involved by the gas bacillus infection which had produced many small and large gas bubbles as well as more recent areas of necrosis and occasional active focus of inflammation. The bacteria lying in relationship to the bubbles of gas and necrotic foci were large and coarse.

In the gall-bladder bacterial colonies were present in the plicae and near the surface.

The adrenals showed colonies of bacteria present in the cortex and medulla.

The kidneys were extensively involved. An occasional glomerulus showed fibroblastic change and early capsular adhesions, bile and blood pigment casts were occasionally present in the tubules.

In the broad ligaments were chronic purulent and productive inflammation.

Colonies of bacteria were in some of the veins.

The ovaries were negative except for bubo-ovarian adhesions on the left side.

The uterus showed recent necrosis at the placental site.

Decidual reaction of the endometrium. Bacterial colonies in the uterine veins.

Conclusion:

1. Reports of puerperal infection due to Clostridium Welchii are appearing more frequently than heretofore.
2. Newer methods of study of the organism have resulted in the discovery of its normal habitat as well as the optimum conditions under which implantation and multiplication occur.
3. From a statistical analysis by Toombs a clinical picture was drawn and the types of cases in which to suspect an infection were clearly stated.
4. In handling such cases one should aim at prophylaxis, using large amounts of the specific antitoxin and blood transfusions. Failing in this, early treatment should be instituted; radical treatment in the severe cases and conservative treatment in mild cases.
5. No effort should be spared in trying to make an early diagnosis, nor in treatment after diagnosis is made, since more than 50 per cent of the severe cases die within four days after infection takes place.
6. In the case reported the clinical picture was distorted by symptoms of a severe toxemia. The conditions favorable for a gas bacillus infection, however, were present. The diagnosis was made at post morten examination. In all probability a blood culture and a smear and culture from the uterus would have confirmed the diagnosis before death.

Raw Apple Treatment of Diarrhea in Pediatric Practice.—Borovsky emphasizes that the raw apple diet as a treatment for diarrhea in infants and young children deserves much more attention than it has heretofore received in this country. He reports twenty-three cases of enteral parenteral diarrhea with uniformly good results within fourteen to forty-eight hours after the institution of this treatment. The youngest patient was 15 days old and the smallest weighed 4 pounds and 12 ounces (2,155 Gm.). The acute diarrheas are the quickest to respond with firm stools. This diet must exclude all other foods except weak tea or water. This treatment has a definite place in the management of diarrhea cases especially when medication is refused or is difficult to administer. The beneficial effects of the raw apple in these cases is probably due to the adsorptive power of the apple pulp, the malic acid, the pectins and possibly the tannates.

SULPHUR THERAPY IN ARTHRITIS*

PRELIMINARY REPORT OF SOME CLINICAL RESULTS

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INTRODUCTION

The value of sulphur as a therapeutic agent in the treatment of disease has long been recognized. Its beneficial effect not only upon diseases of the skin but also in the treatment of rheumatic and arthritic conditions arising from infection or metabolic causes was recognized even by the ancients in very early times.

Llewellyn in his interesting review of the History of Bathing[1] reminds us that the Early Greeks were aware of the beneficial effects of waters containing sulphur and that the Roman Physician Celsus after Nero's time thought them[1] "good for sinews and the palsie and for morphew and the muscles."

In fact sulphur is one of the oldest medicinal agents at the physicians disposal. The Greeks called sulphur "Theriou" which means divine. Various Roman writers at the time of Pliny have mentioned its use and even at that time it had a very definite place in the treatment of skin diseases.

Dermatologists have relied on sulphur in numerous forms and combinations for many years, but not until comparatively recent years have physicians turned to it again for help in treating the economically wasteful disease of arthritis.

It is not within the scope of this paper to consider the effect of this type of sulphur treatment on various chronic skin diseases as we have observed them.

The use of sulphur in the treatment of arthritis was pioneered by French physicians. It was introduced into Germany by Meyer-Bisch[2]. Many physicians who had been using sulphur therapy began to note some remarkable improvements. Mailliard and Robin have demonstrated still further that sulphur is of value in chronic muscular and articular rheumatism and that in this condition there is a disturbance of the organic molecule through certain losses in the system which sulphur supplies.

ACTION AND METABOLISM OF SULPHUR IN THE BODY

Just how sulphur is absorbed and how much; how it is utilized within the body; in what way it exerts its detoxifying action in the body fluids; and how its revitalizing and normalizing effect on cell and general body metabolism is produced has been a matter for investigation by some of the best research minds.

That all of these phenomena occur is evidenced by the results reported here and by those reported in the work of a considerable number of physicians using various methods of sulphur therapy.

A brief review of the research work so far done on this subject and of some of the results of sulphur therapy, as well as of the conclusions and theories advanced by various men concerning sulphur metabolism will serve as a reminder of its importance in modern medicine.

It should be remembered that from a chemical standpoint sulphur has a very high valence, from 2 to 6, with a consequently high combining power. It has been known for a long time that it occurs in many forms and manifests many valences.

We know that sulphur is absorbed through the intact skin. We know that it definitely detoxifies body poisons whether chemical or bacterial in origin. It has been found that certain metabolic diseases are due largely to a sulphur deficiency so that its use as a therapeutic agent is definitely indicated. Osterberg[4] has shown that the sulphur content of the blood is increased by the use of sulphur baths.

According to Zunz[5] sulphur applied to the skin is immediately changed into a form which permits it to reach the cystine containing epidermal cells. It is changed by cystine into hydrogen sulphide and in the presence of hydrogen sulphide the sulphur soluble polysulphides are formed which liberate sulphur in the deep layers of the epidermis. This sulphur reacts with the thionic groups contained normally in the deep epidermis forming disulphides and hydrogen sulphide. These disulphides eventually become penta-thionic acid which along with sulphur itself exerts a detoxifying action.

Schultz[6] considers sulphur particularly characteristic of epithelial tissues just as is iron for red blood cells and calcium for the bones. Quantitatively the amount is small but there can be no protein without sulphur. So we can say that a pathological state exists where there is an insufficient supply of sulphur. Sullivan[7] maintains that sulphur is a systemic detoxifier and an essential component of all internal secretions. Injurious substances are combined with the sulphur unit and eliminated in combination, for example, indican. The intestinal poison

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From the Research Department of Graham Springs, Harrodsburg.

*Read before the Sixth Councilor District, Harrodsburg, Nov. 5, 1936 indol is oxidized in the body to indoxyl which in turn combines with a sulphur unit and is excreted as indican. We know for example that carbon monoxide as well as cyanates are converted into relatively nontoxic substances by elementary sulphur.

The formation of hydrogen sulphide is most important since in this form sulphur is most readily absorbed. In the blood, sulphur is partly oxidized to sulphates and partly eliminated unchanged by the skin and the lungs. Hydrogen sulphide is capable of dissolving elementary sulphur forming polysulphides. These polysulphides are reabsorbed and enter the blood or the cells and give up the excess sulphur which can then in these cases be oxidized or reduced.

Miller[8], Osterberg[4] and others think that the last product of this oxidation is penta-thionic acid. The solutions we have used contain a considerable percentage of already formed polysulphides which, perhaps, assist in a more rapid skin absorption than is true ordinarily.

Sulphur has a definite relation to the cartilages in the joints which are known to contain chondroitin-sulphuric-acid and as Lesure[9] has shown, definite amounts of neutral sulphur. Thus it is important in maintaining the metabolic balance of the cartilage. Its P H of 7.8 is attributed to the chondroitin combination and that is what maintains the suppleness and resistance of the joint. When this is lost with advancing age the cartilage has lost some of its combined sulphur, as has been definitely[7] (Sullivan) demonstrated. This Loeper[6] feels, should justify the use of sulphur in arthritis, as well as the fact that the tissues in arthritic patients show a definite hunger for sulphur. He, Loeper, has shown that there must be a general disturbance in sulphur metabolism as evidenced by the lowered glutathione content of the blood with increased sulphur content in serum. Senturia's[10] work shows that some metabolic disturbance undoubtedly does occur in these cases necessitating the replenishment of the body supply of sulphur in some form. Sullivan and Hess[11] in their studies of cystine metabolism feel that the study of sulphur in relation to vital activities revolves around cystine and glutathione in the body. They found that the cystine content of the finger nails in an arthritic patient was less than in normal persons (8.87% as compared with the normal average of 12%).

STATUS OF SULPHUR THERAPY

Woldenberg[12], in 1935, used intravenous colloidal sulphur in a series of 100 cases with excellent results; effusion and pain in the joints disappearing in many cases with a return of the cystine test to normal. He concluded that the sulphur deficiency in arthritis could be remedied judging from his experiences.

Argy[13] and Neligan[14] reached the same conclusions regarding the benefits of sulphur and the value of the cystine test as an index of sulphur deficiency. This was below normal in most of their arthritic cases. Senturia[10] with similar results concluded that sulphur therapy is of definite benefit. Fleischmann[15] and Teleky[16] in Germany feel that sulphur is a stimulant to cell metabolism and that it appears to be of special importance as rheumatism has been defined as a sulphur deficiency disease.

Yates[17] speaks of the recent use of colloidal sulphur for the treatment of Rheumatoid Arthritis although it has been used in Europe for 15 years.

Schlagintweit[18] thought that the therapeutic effect was due to the polysulphides splitting up into elementary sulphur at foci where localized inflammation existed due to higher concentration of hydrogen during an inflammatory process. Oxidation and chemical reduction are accordingly influenced.

Rawls et al[19] further reported that in their series of cases most patients had a cystine test of less than 12 per cent which was improved by a sulphur therapy and that the sedimentation rates and non-filament cell counts, which are high in inflammatory conditions, were definitely reduced. Furthermore, an improvement in constitutional symptoms as well as a reduction of pain, swelling and stiffness was noted.

Wheeldon[20] working over four years with nearly 900 cases arrived at the same conclusions and showed in addition a definite tendency of sulphur therapy to normalize and stabilize the body metabolism as evidenced by improvement in blood pressure, weight and the body fluids in a large percentage of cases.

Krestin[21] in England last February used sulphur in treating chronic arthritis with excellent results and concludes its use is definitely indicated.

These brief abstracts from the work of only a few of the men interested in this type of therapy will serve to show the results which have been accomplished by one method of administering sulphur and that certainly, however it is gotten into the system, it is of definite benefits.

RESULTS OF SULPHUR ADMINISTRATION ORALLY AND IN BATHS

REPORT OF CASES

It is our purpose to report certain rather definite and encouraging results which have been obtained during a period of one year treating arthritic conditions with sulphur baths and by the oral administration of sulphur; in both instances in greater concentration than has heretofore been available.

The exact amount of sulphur absorbed through the gastro intestinal tract and through the skin by this combination method of administration is difficult to estimate. Osterberg[4] and others have done work along these lines showing the amount of absorption through the skin by estimating the increase of sulphur in the blood after treatment with sulphur baths and with ointments. They have been successful with psoriases and similar chronic skin diseases.

Moncorps[22] and Bornstedt in Germany estimated that the average sulphur content in the serum of normal persons is 0.696 mg. per 100 c. c. As nearly as can be figured the sulphur content of the baths used in the treatment of the cases here reported was approximately .022 gms. per 100 c. c. which is many times the concentration of sulphur in normal serum. A solution was used containing alkaline sulphides, having in it polysulphides, approximately 3 per cent; dissolved sulphur, approximately 3 per cent; and colloidal sulphur, approximately 4 per cent, in the proportion of 6 oz. to 20 gals. of bath water. About twice that concentration was given orally about seven times a day throughout the course of treatment. One bath a day of half hour's duration at a few degrees above body temperature, according to the condition of the patient, has been considered sufficient. This in turn was followed by a period of profuse sweating, massage and a short rest. In most cases "light" treatment was also used. The fairly consistent results should prove interesting and encouraging to those who have been using sulphur in combating arthritis.

While not discussed in this paper these patients were all thoroughly examined, foci of infection eliminated as far as possible and started on a proper dietary regime. Additional appropriate medication was given whenever indicated particularly in cases with complications.

In the series of cases here reported soluble sulphur, some of which was in colloidal form, was administered by baths and by mouth concurrently.

In tabulating these 77 cases we have followed the suggestion of the American Committee for the Control of Rheumatism, and classified the types as either hypertrophic or atrophic arthritis. Several of the cases were undoubtedly of a mixed type and were classified according to the more predominant etiology and pathology. A number of these cases presented arthritic symptoms as their chief complaint and perhaps were not primarily arthritis. We have included them in this group, however, because the arthritic symptoms were the ones demanding relief. Also some classified as atrophic were really more like cases of neuritis or fibrositis.

Group A. Hypertrophic Arthritis

Cases with a gradual onset over a period of years, largely non-toxic in origin, with deformity or exotosis, crepitation, pain with limited motion in the joints involved, were considered as hypertrophic in type. These either showed or had shown by X-ray, degenerative changes in the joints with calcification, lipping, and, in some cases, ankylosis.

Out of the whole series these numbered twenty-seven.

There were twenty-one females and six males in this group with an average age of sixty six years. The oldest was seventy-seven years old, and the youngest fifty years old. The average duration of illness had been about eleven years with three cases lasting twenty years and one lone case lasting four months.

The etiology in most of these cases seemed rather complicated. In probably two-thirds the origin was metabolic brought on by menopause, thyroid disturbances, gall bladder disease, constipation, etc. In three cases infected teeth seemed to be the cause and in five cases the origin could not be determined. Possibly it lay in some obscure glandular disturbance.

All of this group had had complications which may or may not have been etiological, but which certainly didn't help the general condition. Six of these cases had constipation and an equal number had digestive disturbances. Six had impaired kidney function with albumen and two had diabetes. Cardiac involvement featured several cases. Nine had anaemia with a R. B. C. of less than 3,800,000 and a correspondingly low Hgb. Nine cases showed hypertension. The cystine content of the finger nails in these cases was low, i. e., in three cases nine to nine and a half per cent.

Multiple involvement of the joints in most cases, with knees and ankles predominating was characteristic. In all but one or two deformity and crepitation of joints was involved. Pain and stiffness was universal with a disability varying from one hundred to twenty-five or fifty per cent. Six had eighty to one hundred per cent disability.

In general the results showed some reduction of deformity with considerable reduction in disability. The average stay in hospital of three weeks, was not sufficient for best results. The importance of this is shown in one case which stayed sixteen weeks and walked out completely relieved with a normal blood pressure and urine free of albumen. Two only stayed ten days. One of these with two others showed no change in the short time allowed for treatment.

Noticeable and unexplainable was the fact that the urine was free of albumen in the nephritic cases and the diabetics were rendered sugar free. Ten cases of hypertension were reduced from forty to eighty points and in a few cases a low pressure was raised.

Symptomatically nearly all of these patients were much improved, had better appetites and slept better than usual with complete relief from pain. However, five showed very little improvement, just why, it is difficult to say. The crepitation in the joints was more marked and the complications of longer duration than in the others, which may have been the explanation.

Group B. Atrophic Arthritis

Turning to the atrophic cases we find some quite striking results. In classifying forty-seven cases as atrophic we have departed somewhat from established customs in classification but we think justifiably. Atrophic or rheumatoid arthritis has been considered a disease of those under forty years of age with acute onset toxic in origin and with proliferative joint changes progressing sometimes to fibrous adhesions and having symptomatically much pain and disability and sometimes deformity of the joints.

In the cases here mentioned all these conditions have been fulfilled in an older group than usual having an average age of over fifty years. One was seventy-six years old and one eighty years old, two twenty-one. Altogether only fourteen were under forty years of age. There were twenty-seven males and twenty-three females.

Nine cases were probably of metabolic origin and the rest of definitely toxic origin. A number included types of infection recurring over a number of years. A few of the older cases were of the definitely neuritic type. Six cases were due variously to diabetes, faulty metabolism, menopause with hypertension, constipation, unknown cause, and hyper-thyroidism.

The toxic cases, twenty-six in number, were due variously to teeth and tonsils, septic sore throat, rheumatic fever, prostatic abscess, sinusitis and otitis media, infected feet, oral sepsis, gall bladder disease and pelvic disorders.

In subjective and objective symptoms these cases all suffered from pain and stiffness, some having swelling and some having deformity. Four of these were stretcher cases and nine had 80 per cent disability, seven from 20 to 25 per cent and the rest 5 to 10 per cent. Seventeen of these cases had a definite leucocytosis while a dozen or more had sufficient kidney involvement to show considerable albumen and occasional pus. Some of these had cardiac involvement as well as too low or too high blood pressure. These patients stayed for an average period of two weeks. The longest was four weeks. At the end of that time twenty-seven of the forty-seven showed complete recovery, no disability and no pain. Six of this group had from 90 to 100 per cent disability on admission, four were not relieved. The remainder showed loss of pain and varying degrees of increased mobility.

Sugar and albumen were cleared from the urine. Six hypertension cases were reduced by from 20 to 60 millimeters of mercury and other blood pressures were brought nearer or up to normal.

In general this group showed very definitely the ability of sulphur to normalize metabolism and cell function rapidly without harm to the tissues.

The same was true of the hypertrophic group with the exception of the bony changes which could not be helped in the short time these patients were able to stay. Reference to the accompanying tabulations will demonstrate individual cases.

Discussion

In considering these groups together it should be noted that there is only one reaction. Research has established the fact that sulphur in proper doses is not toxic to the system. Recently Wheeldon and Main[23] demonstrated with guinea pigs intraperitoneally, rabbits intramuscularly, and dogs intravenously and intramuscularly that colloidal sulphur is not harmful in clinical doses. Moncorps[22], Miller[3] and Osterberg[4] in their work discovered no instances of sensitivity to sulphur in their patients with skin diseases. Therefore, it seems safe to say that sulphur in clinical doses is not toxic as far as the human system is concerned.

In this group of cases the theory of "rheumatic diathesis" seems to have some support from the fact that most of these patients gave a family history of arthritis.

The non-toxic effect of sulphur administered in the manner described above, coupled with the results reinforces the already demonstrated fact that sulphur is absorbed

GROUP A. HYPERTROPHIC OR OSTEOARTHRITIS
1. CASES SHOWING VARIOUS DEGREES OF IMPROVEMENT

Case	Age	Sex	History	Cause	Complications	Symptoms	Joints Involved	Laboratory	Duration Treatment	B.	P.	Weight		Results
										B.	A.	B.	A.	
1	74	F	15 Years Gradual Onset	Anaemia Metabolic	None ex. Heberden's Nodes	Pain and Deformity Crepitation	Nearly All 25% Mobility	R. Count 3000000 W. Count 7500 Hgb. 60%	4 weeks	120 80	120 80	99	106	About 50% Improvement in Pain, Function and Deformity. Crepitation Same.
11	70	F	10 Years Gradual Onset	? Metabolic ? Nephritis	Nephritis Hypertension	Deformity Crepitation Pain	All Joints 25% Mobility	Alb. 2+ Pus and Casts Red Count 3,600,000 W. Count 700	3 weeks	230 186	186 90	124	124	Urine Clear. Blood Pressure More Normal. Relief Pain. 75% Mobility.
12	70	F	Twin sister has practically the same chart picture.											
13	70	F	4 Months Gradual Onset	Metabolic Gall Bladder	Gall Bladder Operation	and Swelling	Fingers and Knees Mobility 20%	Negative	10 days	No change		No chang		Relief Pain. Otherwise Same. Too Short Stay.
17	77	F	10 Years Gradual Onset	Metabolic Nephritis Hypertension	Paralysis Right Arm and Side 18 Months	Pain Deformity Crepitation	All Joints Varying 10% to 50% Mobility	R. Count 3,800,000 W. Count 6000 Alb. Sl. Tr. Hgb. 70%	10 days	245 125	180 100	170	165	Relief of Pain Left Side. 50% Increased Motion on Right
23	54	F	6 Years Gradual Onset	? Menopause	Unknown	Pain Deformity Crepitation Exostosis	Fingers 60% Mobility	Negative	1 week	No change		No chang		Function Same. Pain Relieved. Swelling Reduced.
27	55	F	10 Years Gradual Onset	Hypothyroid	Metabolic	Deformity Crepitation	Knees, Ankles 40% Mobility	Negative	3 weeks	No change		212	198	70% Mobility. Hypothyroid About Same.
29	67	F	5 Years Gradual Onset	Hypothyroid	Overweight	Pain and Crepitation	Hips and Knees 80% Mobility	Negative	2 week	180 112	140 90	185	180	Relief Pain. Some Increase in Function.
30	72	F	12 Years Gradual Onset	? Metabolic Very Thin	Gastritis ? Glandular Inefficiency	Pain and Crepitation	Knees Left Hip 50% Mobility	R. Count 3,200,000 W. Count 5000 Hgb. 65% X-Ray Spasticity G. Int. Tract	2 weeks	120 80	130 80	106	112	Relief Pain. Mobility Same. Slight Gain in Weight. Patient 6 Ft. Tall and Very Thin.
33	61	M	10 Years Gradual Onset	Has had Infect Teeth Removed	Constipation	Pain and Crepitation Exostoses on Knees	Knees 10% Mobility	Cystine Test B. A. 9.1 11.1	4 weeks & 2 weeks	110 80	125 80	130	130	Less Pain. Less Deformity. Increased Mobility to About 20%.
35	62	M	10 Years Gradual Onset	Gastritis Removal Teeth 10 Years Ago	Constipation	Crepitation and Soreness	Knees 75% Mobility	Negative	2 weeks	110 60	120 70	184	184	Relief Soreness. Function About Same.
38	72	F	20 Years Gradual Onset	Hypothyroid Menopause	Constipation Hypertension	Marked Deformity Crepitation Pain	All Joints Mobility Zero	Negative	1 month	210 124	170 100	160	150	Some Relief Pain. 10% Mobility. Constipation and Blood Pressure Improved.
41	65	F	10 Years Gradual Onset	Colitis 40 Years	Some Anaemia	Pain and Crepitation Mild Deformity	Right Hip and Leg 50% Mobility With Cane	R. Count 3,200,000 W. Count 8000 Hgb. 65% Alb. 1+	2 weeks	110 80	120 80	89	105	Relief Pain. Deformity Same. About 75% Mobility. Colitis Less Marked.
44	55	M	20 Years Gradual Onset	Alcohol Constipation	Cardio- Renal	Pain Some Swelling	Hips, Knees Shoulders Bed Patient with Oedema	Alb. 4+ Pus 3+	4 months	220 110	140 100	190	170	Patient Walked Out. Pain Relieved. 70% Mobility. Urine and B. P. Normal.

Case	Age	Sex	History	Cause	Complications	Symptoms	Joints Involved	Laboratory	Duration Treatment	B. P.		Weight		Results
										B.	A.	B.	A.	
48	77	M	15 Years Gradual Onset	Poor Metabolism Anaemia	Emaciation ? Paralysis Agitans	Crepitation No Pain Deformity	All Except Spine 20% Mobility	R. Count 3,000,000 W. Count 6,000 Hgb. 60% Alb. 2+	3 weeks	120 80	130 80	112	117	Could Feed Himself and Walk. 50% Mobility.
												Ht. 5 ft. 11 in.		
50	62	F	10 Years Gradual Onset	? Cardiac	Asthma	Deformity Pain Crepitation	Spine, Knees Ankles, Hands 20% Mobility	Alb. 2+ 70% Hgb.	1 month	195 90	140 80	150	140	Relief Pain. Almost No Crepitation. 40% Mobility. Urine Clear.
51	55	F	10 Years Gradual Onset	? Nephritis	Hypertension	Slight Deformity Pain Crepitation	Mostly Fingers	R. Count 3,200,000 75% Hgb. Alb. 2+	2 weeks	240 125	160 90	170	165	Relief Pain. Less Crepitation. Urine Clear.
61	55	F	11 Years Gradual Onset	Nephritis Constipation	Anaemia	Deformity Crepitation Some Pain	All Joints Mobility Zero	Hgb. 60% R. Count 3,000,000	3 weeks	140 90	110 0	88	94½	Relief Pain Deformity Same. About 15% Mobility. Constipation Stopped.
64	73	F	20 Years Gradual Onset	Problematical	Medication 60 to 100 grs. Aspirin per Day	Deformity Crepitation Much Pain	All Joints Mobility Zero	Negative	4 weeks	No change		No change		Reief Pain. Deformity Same. Some Mobility, i. e. 20%. Drugs Discarded.
68	51	F	4 Years Gradual Onset	Obesity	Hypertension	Crepitation Pain	Lumbar Spine Fingers 80% Mobility	Negative	1 week	220 120	160 80	179	171	Mobility About Same. Some Relief Pain. Hypertension Relieved.
76	75	F	7 Years Gradual Onset	Some Metabolic Disturbance	Hypertension	Deformity Crepitation Pain	Knees, Ankles, Fingers 50% Mobility	Negative	5 weeks	210 120	170 100	No change		Increased Motion. Partial Relief Pain. Hypertension Reduced.
80	74	M	8 Years Gradual Onset	Diabetes	Nervous Collapse	Crepitation Some Pain	All Joints 70% Mobility	Sug. 2+	10 days	No. change		No change		Sugar Free with Maintenance Diet. Insulin Used Only 2 Days. Relief Pain. Mobility Same.

2. CASES SHOWING PRACTICALLY NO IMPROVEMENT

Case	Age	Sex	History	Cause	Complications	Symptoms	Joints Involved	Laboratory	Duration Treatment	B. P.		Weight		Results
										B.	A.	B.	A.	
9	56	F	10 Years Gradual Onset	? Menopause Glandular	Ovarian Deficiency	Crepitation Deformity Some Pain	Dorsal Spine Scolises 25%	Cystine 9.04%	3 weeks	No change		No change		Slight Relief of Pain. Deformity and Mobility Same.
37	66	M	15 Years Gradual Onset	Infected Teeth	? Diabetes Anaemia	Some Deformity Crepitation Much Pain	Knees and Ankles 10% Mobility	R. Count 3,900,000 Hgb. 70% Cystine 9.23% Sugar Tr.	3 weeks	No change		No change		No Improvement.
54	66	F	35 Years Gradual Onset	Constipation	? General Toxemia	Slight Deformity Crepitation Pain	Knees, Wrists Fingers 40% Mobility	Negative	2 weeks	180 110	140 100	190	180	Improvement Very Slight. Reduction Hypertension.
75	50	F	5 Years Gradual Onset	Menopause ? Metabolic	Mild Psychosis	Some Deformity and Crepitation ? of Pain	Legs 25% Mobility	Negative	6 weeks	No change		No change		Possible Slight General Improvement.
79	66	F	9 Years	Teeth, Tonsils and Sinuses Operated	Gastritis Anaemia	Some Pain Deformity Crepitation	Elbows Knees and Hips	R. Count 2,300,000 50% Hgb.	2 weeks	No change		67	72	Slight Gain in Strength and Weight Generally Same.

GROUP B. ATROPHIC OR RHEUMATOID ARTHRITIS
1. CASES SHOWING SATISFACTORY RESULTS

Case	Age	Sex	History	Cause	Complications	Symptoms	Joints Involved	Laboratory	Treatment Duration	B.	A.	B.	A.	Results
										B.	P.	Weight		
2	27	M	Neuritis 3 Weeks Acute Onset	Alcohol	Diabetes Nephritis Temporary	Paralysis Muscles and Lower Extremities	Knees and Ankles	Alb. 4+ Sug. 4+ Acetone B. Sug. 240	3 weeks	90 60	120 70	280	215	Complete Recovery. Urine Clear. Blood Sugar 120.
4	65	M	6 Months Acute Onset	Abscessed Teeth	None	Pain Inflammation	Knees and Ankles Mobility 20%	Negative	10 days	110 60	120 70	160	160	Recovery. 100% Mobility .
5	38	M	8 Months Loss 30 Lbs.	Influenza Teeth	Prostatic Abscess	Pain Swelling	Knees and Hips 50% Mobility	Red Count 4200000 W. Count 9200 Hgb. 70% Alb. 2+ Pus	3 weeks	110 70	125 80	145	160	Gained 14 lbs. Urine Clear. Complete Recovery.
7	55	M	1 Month Acute Onset	Hypothyroid		Pain and Swelling	Right Arm 3 Joints Mobility Zero	W. Count 8500	2 weeks	130 80	130 80	175	175	Metabolic Type. Complete Recovery.
8	64	M	11 Years Gradual Onset	Tonsils Teeth	Ascess Teeth	Pain and Swelling Crepitation	Knees and Ankles Mobility 50%	W. Count 11000 Red Count 4000000	3 weeks	110 70	120 80	128	138	Normal Function. Pain and Swelling Reduced 75%.
10	36	M	1 Year Gradual Onset	Tonsils	Old Fracture Neck Right Femur	Pain and Swelling 20% Mobility	Left Hip and Ankle Both Shoulders	Negative	2 weeks	150 80	125 80	174	174	Perfect Recovery. Symptoms Returned in One Month. Relieved Finally by Tonsillectomy.
15	44	M	5 Years Gradual Onset	? Metabolic	Anaemia Secondary to X-Ray Treatment of Psoriasis	Pain and Swelling	All Except Spine 10% Mobility Used Cane	Red Count 3100000 Hgb. 60%	2 weeks	120 65	130 70	165	165	Perfect Recovery. Normal Function.
16	57	F	7 Years Gradual Onset	? Metaboilc Gall Bladder Operation Previously	Constipation	Pain and Swelling	Knees. Shoulders and Elbows 50% Mobility	Negative	2 weeks	140 82	130 80	130	137	Perfect Recovery.
18	40	F	1 Year	Alcohol		Pain Deformity Crepitation	Most Joints 75% Mobility	Negative	4 weeks	130 78	130 80	126	126	Complete Recovery.
19	38	F	1 Year	Undulant Fever	Ovarian Operation	Pain and Swelling	All Joints 10% Mobility	Positive Undulant Fever Red Count 3100000 W. Count 5000 60% Hgb.	10 days	90 60	100 70	138	138	Complete Relief. Neg. Undulant Fever Test.
20	60	F	10 Years Gradual Onset	Constipation	Anaemia	Pain and Swelling	All Joints General Neuritis	Red Count 2300000 W. Count 8000 Hgb. 60%	2 weeks	130 70	130 70	139	139	Complete Relief.
21	70	M	4 Months Gradual Onset	Alcohol	Constipation Poor Diet	Pain and Swelling	All Joints 50% Normal Fibrositis	Negative	8 days	150 80	135 80	180	180	Complete Relief.
22	72	M	6 Years Acute Onset	Infected Foot	Fallen Arches	Deformity Crepitation and Pain	Knees. Ankles. and Hips 40% Normal	Negative	2 weeks	145 80	145 80	150	150	Complete Relief Except Arches.
24	56	F	23 Years Gradual Onset	Arthritis 1913	Broken Ankle	Deformity Pain	Right Knee 20% Mobility	Negative	10 days	126 78	126 78	140	140	Complete Relief.
25	42	F	11 Years Acute Onset	Operation for Appendix and Tubes	Metabolic	Deformity Pain and Swelling	Wrists Fingers 50% Mobility.	Negative	10 days	142 80	130 80	137	137	Relief Pain. No Swelling, 90% Mobility.

Case	Age	Sex	History	Cause	Complications	Symptoms	Joints Involved	Laboratory	Treatment Duration	B. B.	A. P.	B. Weight	A. Weight	Results
28	32	F	1 Year Acute Onset	Sinusitis Teeth	None	Pain and Swelling	Cervical Spine and Shoulder 80% Mobility	Negative	10 days	110/70	115/70			Complete Relief.
32	47	M	24 Years Acute 7 Months Ago	Teeth and Tonsils out 3-4 Months Ago	Cardiac Rheumatic Fever Type	Pain and Swelling	All Joints Helpless Left Arm	W. Count 10,400 Hgb. 80%	3 weeks	140/80	130/80	180	170	Heart Same. 100% Function. Relief Pain.
34	53	M	18 Years Recurring Rheumatic Fever	Tonsils and Teeth Out	None	Pain and Swelling	Left Shoulder and Arm No Mobility	W. Count 9,000	2 courses of 3 weeks	140/80	140/80	240	240	Complete Relief. Restoration Function.
31	36	M	10 Years Acute Onset	Tonsils Out	Bad Arches	Pain and Inflammation	Right Leg 5% Mobility	Negative	3 weeks	120/80	120/80	No change		Relief Pain. Restoration Function.
36	50	M	2 Months Acute Onset	Tonsils Removed	None	Pain and Swelling	Shoulders 80% Mobility	Negative	10 days	No change		No change		Complete Relief. Restoration Function.
40	52	F	4 Months	Teeth	None	Pain and Inflammation	Right Shoulder and Thigh 50% Mobility	Negative	1 week	No change		No change		Complete Relief.
43	60	F	5 Years Acute Onset	Diabetes Nephritis Hypertension	Comatose	General Pain Stiffness	All Muscles and Joints	Sugar 4+ Alb. 2+ Acetone	2 weeks and Insulin	220/120	160/90	No change		Complete Relief. Urine Clear. Sugar Free for 2 Months.
45	33	F	9 Years Acute Onset	Undulant Fever	None	Pain and Swelling	Fingers 60% Mobility	Positive Agglutination Test	3 weeks	No change		No change		Complete Relief. Neg. Test. No Recurrences.
47	60	M	6 Months Acute Onset	Infected Teeth	Bad Arches	Pain and Swelling	Knees and Ankles 80% Mobility	Negative	10 days	No change		No change		Relief. Some Pain in Calves Due to Arches.
57	36	F	3 Weeks Acute Onset	Tonsils Infected	Cardiac Loss 15 lbs. in 3 Weeks	Pain and Swelling	Shoulders, Arms and Neck 20% Mobility	Alb. 1+ Acid 2+ W. Count 1300	3 weeks	120/70	120/70	115	118	Heart Same. Otherwise Relief. Walked Out.
62	48	F	1 Year Acute Onset	Menopause Metabolic	Hypertension	Pain	Left Ankle and Hip	Negative	2 weeks	200/120	128/90	183	173	Arms Normal Function. Relief Pain.
63	31	M	7 Months Acute Onset	Tonsil Infection	None	Pain and Swelling	Left Ankle and Hip 20% Mobility	Negative	3 weeks	118/60	118/60	No change		Complete Relief.
65	54	M	3 Years Acute Onset	Sinusitis	Nephritis	Pain and Swelling	All Joints 10% Mobility	Alb. 2+	2 weeks	106/60	125/70	115	120	Urine Clear. Complete Relief.
66	32	F	1 Year Acute Onset	Infected Teeth	Nephritis	Pain and Swelling	Shoulders and Arms 50% Mobility	Alb. 2+	10 Days	110/70	120/70	114	116	Urine Clear. Complete Relief.
71	21	M	Recurring 21 Years	Operation Tonsils 6 Years Ago Prostrate Recently	Temperature 102	Pain and Deformity	All Joints 10% Mobility	W. Count 11000	2 weeks	124/60	126/60	130	130	Complete Relief. Walked Out.

2. CASES MUCH IMPROVED BUT NOT COMPLETELY RELIEVED

Case	Age	Sex	History	Cause	Complications	Symptoms	Joints Involved	Laboratory	Treatment Duration	B. B.	A. P.	B. Weight	A. Weight	Results
3	60	M	6 Months Acute Onset	Streptococcus Sore Throat	General Neuritis	Severe Pains	Shoulder and Neck Mobility Zero	W. Count 11600 Hgb. 80%	2 weeks	110/70	120/80	No change		Pain and Stiffness Relieved. Recovered about 10% Mobility.
6	26	M	5 Weeks Acute Onset	Tonsil Infection	Temperature 103. Been in Hospital	Pain and Stiffness	Right Shoulder Mobility Zero	W. Count 13000 Hgb. 80%	10 days	105/70	110/70	No change		No Pain. Slight Tenderness. No Temperature. 50% Mobility.

Case	Age	Sex	History	Cause	Complications	Symptoms	Joints Involved	Laboratory	Treatment Duration	B.	A.	B.	A.	Results
										B.	P.	Weight		
39	56	F	10 Years Gradual Onset	Multiple Fractures	Fracture Hip 35 Wrist 26 Knee 31	Swelling Some Pain	All Joints Mobility 40%	Red Count 3700000 Hgb. 70%	2 weeks	106 70	115 70	104	110	Relief Pain. Mobility About 50%. Too Short Stay.
46	58	F	6 Years Acute Onset	Tonsils Infected	Hypertension Cardio-Renal Mitral Dis.	Pain and Inflammation	Ankles and Knees	Alb. 2+	2 weeks	210 120	145 90	189	180	Improvement Symptoms. Urine Clear. Otherwise Same.
49	39	F	6 Years Acute Recurring Onset	Infected Teeth	Menopause	Pain and Swelling	Left Leg Right Shoulder 75% Mobility	Negative	1 week	No change		No change		Relief Pain. Mobility 80%.
52	60	M	4 Years Acute	Cerebral Hemorrhage	Tbc. 2 Years ago Cardio-Renal Hypertension	Pain	Knee, Hip and Shoulder 40% Mobility	Alb. 3+ X-Ray Lipping in Right Hip Joint	2 weeks	260 220	180 100	No change		Relief Pain. Disability About Same. Speech Defect and Loss Patellar Reflexes. Urine Clear.
53	65	M	40 Years Acute Recurring	Tonsils Infected	Recurring Rheumatic Fever	Pain and Swelling	Fingers, Knees Ankles 20% Mobility	Alb. 3— X-Ray of Hip Showed Lipping	4 weeks	180 120	140 100	No change		Urine Clear. Relief Pain. 60% Mobility.
55	35	M	2 Years Acute Recurrin	Prostatic Abscess	Gonorrhea	Pain and Stiffness	Right Leg Both Hips 20% Mobility	W. Count 9200 Alb. 2+ Pus 4+	2 weeks	108 64	120 80	No change		Urine Clear. Relief Pain and Swelling. Increased Mobility. Ref. G. W. Rx.
56	8	F	2 Years Acute Onset	Otitis Media	Cardiac Loss 10 lbs. in 3 Weeks	Pain and Swelling	All Joints 10% Mobility	Negative	3 weeks	120 70	120 70	40	45	Relief Pain. 40% Mobility. Less Swelling.
60	58	F	7 Years Mod. Acute Onset	Menopause Cystitis	Hypertension Radium Treatment	Pain Deformity Crepitation	All Joints Especially Fingers 60% Mobility	Alb. 1+	2 weeks	190 110	140 90	138	138	Relief Pain. Deformity Same. 90% Mobility.
67	61	F	10 Years Acute Recurring	Hyperthyroid 6	Cardiac Fibrillation. Goitre Op. 14 Years Ago	Pain and Some Deformity	Knees, Ankles and Hips 90% Mobility	Negative	3 weeks	164 80	138 80	Slow gain		Pulse 120 to 88. Fibrillation Changed to Dropped Beat.. Relief Pain
70	21	M	3 Years Acute Onset	Tonsil Infection	Anaemia	Pain and Stiffness	All Joints 20% Mobility	Red Count 2100000	11 days	No change		No change		Relief Pain. Some Stiffness. 40% Mobility.
73	64	M	6 Months Acute Onset	Prostatectomy		Pain and Stiffness	Left Hip, Knee and Ankle 10% Mobility	Negative	3 weeks	110 80	120 80	No change		Relief Pain. 40% Mobility.

3. CASES WITH LITTLE IF ANY IMPROVEMENT OR RELIEF

Case	Age	Sex	History	Cause	Complications	Symptoms	Joints Involved	Laboratory	Treatment Duration	B.	A.	B.	A.	Results
										B.	P.	Weight		
14	76	F	3 Months Acute Onset	Streptococcus Throat	Anaemia Secondary	Pain and Swelling	Mostly Muscular 10% Mobility	R. Count 3060000 W. Count 11700 Hgb. 60%	4 weeks	112 70	130 80	100	106	Negative Strep. Flare-up on Leaving.
42	54	F	14 Years Acute Onset	Teeth and Tonsils	None	Pain and Swelling	All Joints 15% Mobility	Negative	2 weeks	No change		No change		Worse.
59	57		9 Months Acute Onset	Oral Sepsis	Gastritis Anaemia Prostatic Abscess	Pain Crepitation Deformity	All Joints Mobility Zero	Red Count 2900000 W. Count 11000 Hgb. 50% Alb. 3+ Pus 1+	3 weeks	No change		No change		Severe Reaction. No Result.
69	57	M	10 Years Acute Recurring	Infected Teeth	Constipation	Pain and Deformity	All Joints Mobility Zero	Urine No Alb. Specific Gravity 1.3000	2 weeks	140 100	120 80	No change		No Change.

through the intact skin. The marked improvement in some 50 per cent of the whole group and the completely satisfactory results in 40 per cent show conclusively that sulphur absorbed through the intestinal tract and by means of baths has a definitely detoxifying effect on the system.

That it tends to revitalize and normalize body and cellular metabolism seems logical in view of the improvement in blood pressure, weight, etc., where it was needed. High pressures were reduced and low ones increased. This general action corresponds with that found by other users of sulphur therapy. The healing action of sulphur on the kidneys was quite evident where patients had such complications incidental to the arthritis. Since, as has been mentioned before, sulphur combines with the indol skatol group to remove them, these particular irritants are eliminated. In other ways when absorbed into the system and body fluids this sulphur combines with injurious substances and is eliminated. It may, on the other hand, combine to remedy an existing deficiency in sulphur content.

It has been shown that sulphur has to be converted into polysulphides in the normal process of absorption. Hence it can be assumed that the polysulphides and colloidal sulphur in the solution of concentrate used in the baths and drinking water are in a particularly absorbable and usable form.

From the patient's point of view the relief from pain and reduction of swelling was striking and the improvement in function most encouraging. We believe that these results are additional evidence of the value of sulphur, particularly in this form, as a therapeutic agent. While its universal existence in the body and its action is known and has been amply demonstrated by a number of excellent men, the field for its use has barely been scratched. As more is known, we will undoubtedly find its use indicated in many toxic diseases where its action has been little noticed up till now.

SUMMARY

1. A solution containing alkaline sulphides and colloidal sulphur was administered with varying types of arthritis, chiefly atrophic.

2. The treatment resulted in complete recovery in 30 per cent of these cases, with relief of pain, and reduction of joint swelling; considerable improvement in function in 58 per cent, and no improvement except perhaps in appetite, sleep and general well-being in 9 cases or about 12 per cent.

3. The results indicate that sulphur in the form used and with these methods of administration has no toxic effect on the system. Rather its action is definitely detoxifying and non-irritant to a degree not true of other drugs in arthritis.

4. It tends to normalize body metabolism and revitalize cell tissues by replenishing existing sulphur deficiencies, as demonstrated by its favorable action on blood pressure, weight and the patients' general symptomatology.

5. Sulphur therapy seems definitely indicated in arthritis and its results, with this method of administration, have been very satisfactory.

Definite indication appeared in this series that sulphur is helpful in the treatment of other diseases, in connection with which it has not so far been very seriously considered.

BIBLIOGRAPHY

1. Llewellyn, L. D., History of Bathing. M. J. & Record; 119:406, 1924 120:77, 1924.

2. Meyer-Bisch, Robert, Ueber die Behandlung Chronische Deformierender Gelenke Krankunger mit Schwefel. Klin. Wehnschr I 575 1922.

4. Osterberg, A. E., Rubenstein, M. W., and Goeckerman, W. H., Absorption of Sulphur Compounds during treatment hy sulphur baths. Arch. Derm. & Syph. V. 20 pp 156-166, Aug. 1929.

5. Zunz, E., Elements de pharmacodynamic special. Paris Maisson & Cie. 1932 p 15.

6. Schultz, Hugo, The Action and Use of Inorganic Medicinal Substances: Sulphur., J. Am. Inst. of Homeop. 26: (6) 424, 1933.

7. Sullivan, M. X., Sulphur & Cystine in relation to Arthritis. Med. Ann. D. of C. Vol. III No. 9, 1934.

8. Miller, H. E., Colloidal Sulphur in Dermatology. Arch. Derm. & Syph. Vol. 31, pp 516-24, Apr. 1935.

9. Loeper, M., Schw. Med. Woch. 64:1122-24, Dec. 8, 1934. Loeper, M., Lesure, A., & Tonnett, J., Comp. rev. Soc. de. Biol. 161:31, 1934.

10. Senturia, B. D., Results of treatment of chronic arthritis and rheumatoid conditions with colloidal sulphur. J. B. & J. Surgery. Vol. XVI, No. 1, pp 119-125, Jan. 1934.

11. Sullivan, M. X. & Hess, W. C. Cystine Content of Finger Nails in Arthritis. J. Bone & Joint Surg. XVI 185, Jan. 1935.

12. Woldenberg, S. C., The Treatment of Arthritis with Colloidal Sulphur. J. S. Med. Ass'n., Vol. 28, 10: 875-881, Oct. 1935.

13. Argy, W. P., Arthritis Treatment with Sulphur by Intravenous and Intramuscular Injection. J. Bone & Joint Surg. XVI 909, Oct 1934.

14. Neligan, A. R. & Salt, H. B., Sulphur in Rheumatoid Arthritis. The Lancet 2:209, July 28, 1934.

15. Fleishmann, R. Wien Med. Woch. 84: 753, Jan. 30, 1934.

16. Teleky, L., Deut. Med. Woch. 60:681, May 4, 1934.

17. Yates, W. M. Med. Ann. D. of C. 5:4-11, Jan. 1935.

18. Schlagintweit, Sulfur Therapy, Muenchener Medizinische Wochenschrift, March, 1930.

19. Rawls, W. B., Gruskin, B. J., Ressa, A. A., Value of Colloidal sulphur in treatment of Chronic Arthritis. An. J. Med. Sc. V. 190 No. 3, p 400, Sept. 1935.

20. Wheeldon, T. F., The use of Colloidal Sulphur in the treatment of Arthritis. Pt. II J. Bone & Joint Surg. Vol. XVII, No. 3 pp 693-726, July 1935.

21. Krestin, D., Treatment of non-specific arthritis with intramuscular injections of sulphur. Brit. Med. J. p 1144, Dec. 7, 1935.

22. Moncorps, C., Change in Metabolism of Human Body after Use of Salve containing Sulphur. Arch. & Exper. Path. U. Pharmacol. 141: 87-104, Apr. 1929.

23. Wheeldon, T. F., Main. R. J., The use of Colloidal Sulphur in the Treatment of Arthritis. J. Bone & Joint Surg. Vol. XV, Pt. 1 pp 94-97, Jan. 1933.

DISCUSSION

R. T. Ballard: This paper is very interesting because of the three important phases of medicine with which it deals.

First, of arthritis, one of the oldest diseases of man, shown to be present in the phehistoric ages and recognized in the literature from the very earliest records. Its constant increasing incidence, it has no confines but is prevalent the world over. There are over twelve million cases in the United States. The total cost including economic loss runs well over $400,000,000 yearly or more than the cost of cancer and tuberculosis combined. More important still is, that until the introduction of colloidal sulphur, the percentage of cures was less than twenty-five per cent, but with this form of therapy and adjuvant treatment the percentage of cures ranges above eighty-five per cent. Most physicians feel as did Sir William Osler who said, "When I see an arthritic patient enter my office I have a strong inclination to jump out the window."

Second. This paper delves into colloidal chemistry, practically an unknown quantity until two or three years ago since which time it has had the spotlight of research medicine. Especially is this true of colloidal sulphur.

A summary of the actions of colloidal sulphur that have been proven and accepted include:

1. It detoxifies the system regardless of the origin of the toxins, that is, it unites with the skatol indol and endoxyl groups and renders them innocuous.
2. It revitalizes or re-establishes the normal resistance of the whole organism by restoring the normal metabolism.
3. Its catalytic action brings us into another very important phase of research medicine, the secretion of the endocrine glands with which it is closely associated.

a. It acts like insulin in that it reduces blood sugar in diabetics. The moderate diabetic which develops after mid-life is probably due to some toxic origin which has reduced the body surphur, as shown by low cystine content of the fingernails. It is a proven fact that insulin contains loosely bound sulphur, the removal of which renders it inert.

b. Its action is like thyroxin in that it will increase the metabolic rate from ten to twenty per cent in cases of hypothyroidism.

If these actions of sulphur are true, and they have been amply proven, then it is indicated in all toxic diseases, especially those associated with a deranged metabolism.

With the advent of colloidal chemistry and endocrine substances the Internist has added to his armamentarium one of the most active therapeutic agents discovered in modern medicine.

Prostatic Hemorrhages. Pasteau believes that hemorrhage from the prostate occurs much more frequently than is generally believed. Traumatism is frequently responsible, but spontaneous hemorrhage is far from rare. The most important method of diagnosis of prostatic hemorrhage is furnished by catheterization. The most important aspect of treatment consists in avoidance of trauma so that the prostate may not be injured.

HEADACHE*

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Middlesboro.

As we consider the wide fields of the pathological conditions that mankind is heir to, no one of us will deny that the symptom which has the greatest incidence is headache. It is true that many people attach but little importance to even prolonged pain, but as physicians, we know that while most headaches are not pathognomonic of serious lesions, nevertheless the contrary is sometimes true. We know, further, that pain is often a beneficent guide to the presence of serious lesions, which when diagnosed and treated promptly, result in amelioration or cure. And we know that prolonged pain, even though slight and indicating no serious condition, can impair an individual's efficiency, discolor his views in life, and render him a burden to himself and others.

I feel confident that at least a hundred or two medical conditions, in which headache is a frequent symptom could be named. I will not attempt an exhaustive list of all the eye, nose and throat affections that cause headache, but will briefly discuss the most common as met in the average eye, ear, nose and throat practice. I will refer frequently to various authorities.

Probably the most frequent is ametropia, or refractive error, in which, when the eyes are in a state of rest, the images cast upon the retina are not clear, due to the fact that the rays of light do not focus properly from myopia, hyperopia, simple, mixed or compound astigmatism. The aching of the head is usually in the eyes or in the frontal, temporal, or occipital region, and is apt to vary with the amount of use of the eyes. It is a strange fact that many refractive errors of considerable degree do not cause headaches and that small errors sometimes result in severe pain. In the headache from ametropia the wearing of proper lenses is most gratifying. In a certain number of cases it is both safe and wise to use homatropine or even atropine in refracting these patients. It is unfortunate that many of the laity have an unreasoning fear of these "drops" which when properly used are safe and of much assistance to the ophthalmologist and therefore to the patient.

Another frequent cause is asthenopia, whether retinal, due to excessive use of the eyes or improper lighting, etc.; muscular, from an imbalance of the extra-ocular muscles; or accommodative, from fatigue of the ciliary body. It is evident that the wearing of correct lenses, proper lighting, sensible use of the eyes, exercises of the extra-ocular muscles and general care may be indicated.

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*Read before the Bell County Medical Society, held at Pineville October 16, 1936.

A common cause of headache is acute inflammation of the nasal mucosa resulting from the common cold, and producing either occlusion of the various ostia of the paranasal sinuses or in apposition of various portions of the mucous membrane. In an occasional case, such apposition may exist without acute inflammation but with almost constant headache, as when the nasal septum is deviated to such a degree as to result in impingement on a turbinate, an indication for sub-mucous resection of the septum. Such appositions are more frequent however, when an acute rhinitis causes swelling of the mucosa, so that tissues which are ordinarily almost but not quite together definitely impinge on each other. But the usual headache from acute rhinitis is due to the occlusion of one or more of the paranasal ostia. It is wise to remember that occlusion of an ostium does not necessarily mean prompt infection of its sinus, for natural reparative processes, with or without the aid of treatment, may result in a subsidence of the mucosal swelling with resultant patency of the ostium. In such a case, the pain is due, not to a positive pressure from secretions or pus in the sinus, but to a negative pressure therein, due to the absorption of the oxygen in the closed cavity. It is obvious that the prolonged retention of increasing secretions or the formation of pus, when the ostium is closed, might result in headache from positive pressure within the sinus. Here we meet with a peculiar inconstancy and inconsistency in the type, degree, chronicity and localization of the pain in different individuals and in the different sinuses. No set rule holds good in every case, but remembering that there are a great number of exceptions in what is about to be said, we can safely generalize. Although pain may be absent in sinusitis, nevertheless its presence in certain localities and during certain times of the day or night is sometimes suggestive. Hajek says "Many cases of sinus disease with slight nasal symptoms go through their entire life with the diagnosis of chronic headache, taking all manner of cures, such as electro and hydro-therapy, sea baths, general and special (body) massage, without it ever occurring to anyone that the headache might be caused by a structural disease in the immediate neighborhood (accessory sinuses of the nose)." Holmes says we may have purulent inflammation of all the sinuses on both sides without the patient ever having suffered from pain at any time, but Skillern, after quoting Holmes, says he has never observed such a case, and quotes Grunwald who puts the figures at fifty per cent in the chronic cases and one hundred per cent in the acute, which reveals the wide divergence in the opinions of the authorities mentioned. Shambaugh says "Headache and pain are not very common symptoms of chronic sinus disease, contrary to popular belief. Most chronic sinuses don't cause headache and most headaches are not caused by sinus disease. When headache and pain occur in chronic sinusitis it is usually during acute exacerbations induced by an acute head cold. Headache from maxillary sinus infection is often felt above the eye but may be felt in the cheek or referred to the ear. Frontal sinus pain is always felt in the frontal region. Ethmoid sinusitis causes aching pain in the region of the ethmoids between the eyes in the frontal region. Sphenoid sinus pain may be felt in the occiput, in the top of the head, around the ear or in the frontal region."

Migraine is a common cause of headache, and although much work has been done to determine its etiology we are as yet rather in the dark as to its treatment. It is probably a medical problem, nevertheless, in differential diagnosis, it must be borne in mind by the eye, ear, nose and throat man, as must headaches from allergy.

The constant and prolonged headache from brain tumor is sometimes of great significance, and in every such case of headache the fundi should be studied and perimetric visual fields determined, for the ophthalmoscopic picture and a slight restriction of the fields superiorly may throw much light on the diagnosis.

Primary glaucoma is sometimes painless, but occasionally there is pain at about the junction of the parietal and temporal bones. In case of doubt a thorough examination of the eyes is indicated, including a determination of the perimetric visual fields.

In conclusion, we may say that headache is a symptom of some minor or even serious pathologic condition, that its type and locality may be of service in diagnosis, and that its presence should cause us to attempt to discover and treat its cause.

Primary Giant Cell Tumors of Patella. According to Sorge, the number of cases of primary giant cell tumors of the patella reported in the literature is sixteen, including his own. He reviews the operation performed in each case and the results reported. In his case he resorted to rotulectomy followed by reconstruction of the extensor femoris muscles and plastic correction of the tendon of the quadriceps by means of a flap, previously prepared.

CORONARY OCCLUSION*

C. W. Justice, M. D.

Ludlow.

The number of obituaries of physicians published in the Journal of the A. M. A. during 1935 for the United States totaled 3,319. Heart disease was the leading cause of death, totaling 1,345, or 40.5 per cent of the total. Of this number 220, or 16 per cent died of coronary thrombosis. Our own profession leads all others in deaths from this cause. Coronary occlusion is a serious medical accident, it may be brought about either by embolism or thrombosis. Factors which seem to predispose to the condition include long continued nervous strain, increased use of cigarettes, diabetes, obesity, syphilis occasionally, and trauma, possibly. The pathological factor is progressive and extreme narrowing of the coronary artery due to atheromatous changes. The inciting factors are an acute digestive upset, drinking of cold fluids by an individual with a narrower coronary vessel, over fatigue, depressing emotion or a debilitating illness, acute or chronic. Both embolism and thrombosis present the same symptoms of occlusion. In 20 per cent of the cases there is a history of angina pectoris before thrombosis. Pain, the most characteristic symptom, is present in ninety three per cent of the cases. Pain is typically felt beneath the sternum 82 per cent and characteristically radiates to the left arm 22 per cent, both arms 18 per cent, right arm 36 per cent, neck 14 per cent, jaw 2 per cent. It starts as a burning or boring sensation and tends to increase with great violence. There is often a great sense of pressure with the pain. The pain usually lasts for hours unless it is controlled by morphine. While the pain is usually very difficult to relieve, the fact that it is occasionally controlled with relative ease should not discredit the diagnosis of coronary occlusion if the case fits the picture in other respects. In 13 per cent of the cases pain is felt in the upper abdomen usually centrally. At this location it may simulate an acute gastrointestinal or gall bladder condition.

Shock always accompanies occlusion and is usually severe. This is characterized by pallor, a tendency to sweat, a feeling of faintness with possible loss of consciousness, a subnormal temperature, soft, full pulse and a low blood pressure. Vomiting at this stage is a common symptom, occurring in about 25 per cent of the cases.

Dyspnoea may vary from a slight breathlessness on exertion to the awful struggling respiration of marked cardiac asthma and is sometimes the only manifestation of coronary occlusion.

Shock may last several hours to a day and after it subsides the patient has a feeling something is wrong in his chest. Pain may develop on exertion or change of posture and may last for weeks with traces of it for a much longer period of time. Fever usually develops after two or three days and runs between 101 and 103 degrees Fahrenheit; the fever is oftentimes absent. The grade and duration depending on the size of the infarct undergoing necrosis. With the fever there is the disproportionate elevation in the pulse rate and a leukocytosis averaging 13,000 with a maximum of 33,000 and a minimum of 5,500. Pericardial friction rub may be heard in this stage in about 10 per cent of the cases. After the first two or three days the first heart sound gradually fades away and can scarcely be heard in some cases.

Roentgenological study may show no abnormality whatsoever, though the aorta is usually distinctly tortuous and elongated from atheroma, with prominence of a knob and sometimes with visible calcification. Roentgenray examination usually shows cardiac enlargement after coronary thrombosis. In the case of extreme cardiac infarction the action of the heart may be obviously weak.

Electrocardiograms are generally normal with coronary disease, but they frequently show the presence of intraventricular block and less commonly low voltage or auriculoventricular block. The commonest cause of intraventricular block is coronary disease. At the present time the greatest value of the electrocardiogram lies in its aid to the satisfactory diagnosis of coronary thrombosis. There are numerous departures from the normal record in this disease and any one or more of the following changes may be found. (1) RT and ST intervals are not iso-electric (Pardee's sign)—i. e., the T wave rises high on the down stroke of R or low on the up stroke of S. (2) There is an inversion of the T. wave in lead 2 accompanied necessarily by inversion in lead 1 or lead 3. (3) Sometimes inversion of the T wave in lead 1 only. Inversion of the T in lead 3 alone is very seldom of pathological significance and is often a feature of healthy hearts. (4) Widening of the QRS interval to 3-25ths of a second, or more, is due to depression of conduction to the main branches of the auriculoventricular bundle, a condition known as bundle branch block. (5) Very occasionally a P R interval of over 1-5th of a second with or without dropped beats, due to partial heart block. (6) Complete heart block with an auricle (P wave) beating at about 80 and a ventricle (RST waves) at about 30 beats per minute. (7) Almost any of the irregularities of the rhythm, particularly auricular fibrillation and paroxysmal ventricular tachycardia.

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*Read before the Kentucky State Medical Association, Paducah, October 5, 6, 7, 8, 1936.

The complications of coronary thrombosis are so often fatal that the prognosis may be said to depend, primarily, on its accurate diagnosis. There are few outstanding or common features of the electrocardiogram which definitely foreshadow either fatal or favorable results. Graphic support for the diagnosis should be regarded as accessory evidence when abnormalities are present.

Complications. In addition to such complications as cardiac aneurysm, cardiac rupture, congestive failure, a heart block and other arrhythmias, and embolism from intracardiac thrombosis, coronary disease is frequently accompanied by hyperpiesia and general arterio-sclerosis, sometimes by chronic rheumatic valvular disease. It should be added that although general or peripheral arterio-sclerosis and coronary disease are often associated. Finally even in the later years of life nervousness and neurocirculatory asthenia may occur, to exaggerate the symptoms of coronary disease.

The exitus in cases of coronary artery occlusion is usually by aneurysmal dilitation of the ventricle with spontaneous rupture of the heart muscle, ventricular fibrillation or by embolic cerebral phenomena.

The following is a summary and conclusion of 370 cases of coronary thrombosis reported by Dr. Frederick A. Willius, Rochester, Minn., 80 per cent of the thrombosis occurred when the patients were between the ages of 50 and 70 years. No patients were less than 30 years of age, the incidence in the fourth decade of life was 1.6 per cent, while 17 per cent of the patients were in the fifth decade. There was a great predominance of males over females; the ratio was 7 to 1. No. 2. Solitary coronary occlusion occurred in 80 per cent of the cases; two episodes occurred in 17 per cent, three attacks in 2.2 per cent and four episodes in .5 per cent of the cases. No. 3. Death directly attributable to the heart occurred in 51 per cent of the cases, while other diseases such as pneumonia, cancer and nephritis accounted for the death of 3 per cent of the patients. The patients surviving at the conclusion of the study comprised 46 per cent of the group. No. 4. While the incidence of females in this study was relatively small their cardiac death rate was considerably greater than among males: females 63 per cent and males 50 per cent. No. 5. There was no correlation between the duration of pain in coronary thrombosis in death or survival. No. 6. The cardiac death rate increased progressively with recurrent coronary thrombosis. Among cases of solitary coronary occlusion the cardiac mortality was 47.5 per cent, among cases in which there were two attacks 70 per cent, and among those in which three attacks occurred 75 per cent. No. 7. The patients living at the conclusion of this study comprise 45.7 per cent of the group. Of these. 42.6 per cent reported themselves to be in good health, 23 per cent were well while living a restricted life, 29 per cent had recurrent anginal attacks, 3.6 per cent had congestive heart failure and 2 per cent had had cerebral vascular accident.

The histories and necropsy protocols of two recently treated cases are here briefly given in order to illustrate some of the types of cases encountered. Case 1. W. C., a man aged 57, a stationary engineer, had had symptoms of congestive failure for two years. The heart was greatly enlarged. The blood pressure was 110 mm. of mercury systolic, 90 diastolic. The electrocardiogram showed bundle branch block. He was found dead in bed early one morning.

At necropsy, the heart weighed 720 Gm. There was a small thrombus in the apex of the left ventricle, and the anterior wall of this ventricle was infarcted. About 1 cm. from the orifice of the anterior descending branch of the left coronary artery"the artery of sudden death" was an atheromatous plaque, about 3 mm. in diameter which almost completely occluded its lumen. The lumen beyond this point was normal. There were a few yellowish intimal plaques in both right and left main branches.

Case No. 2. E. H.; a man aged 54, a merchant, for 20 years had had paroxysmal cardiac pain, usually after effort. For the ten days preceding his admission to the hospital, pain had been almost continuous and he became short of breath. On examination, the heart was only slightly enlarged. Regular rhythm was interrupted by premature beats. The electrocardiogram showed bundle branch block, the form of the complexes changed in later records. The blood pressure was from 90 to 110 mm. of mercury systolic and from 66 to 86 dyastolic. There was no fever. The leukocytes ranged from 15,000 to 17,000; there was well marked polynucleosis. He died in his sleep.

At necropsy the heart weighed 450 Gm. there were thrombi in the right auricle. There was a recent infarct in the left ventricle, near the septum and an old area of infarction occupying about one-fourth of the anterior wall, also near the septum. Both coronary arteries and their main branches showed extensive atheroma, calcification and narrowing of their lumen. There were numerous small atheromatous ulcers in the intima. The heart muscle showed extensive necrosis, degeneration and scarring, especially marked in the left ventricle. There were infarcts in the right lung.

The long story of paroxysmal heart pain with recent acute, persistant exacerbation in this case suggested the diagnosis of coronary thrombosis. The coronary lesions were advanced, indicating a progressive process over a long period of time and leading eventually to closure of portion of the coronary bed, with infarction of the myocardium and congestive failure.

TREATMENT. Relief of the pain with morphine is the immediate indication following diagnosis, as the pain is in itself the direct cause of the shock which is one of the immediate perils, and which tends to extend the clot by still further reducing the vigor of the coronary circulation. If the quarter grain of morphine which is given immediately does not take effect at once, it should be repeated; as much as one grain may be required to make the patient comfortable. A mild degree of narcosis should be maintained thereafter, 1-10th grain every three or four hours usually being sufficient. Hot water bags should be applied to the feet and over the precardium. If medication is used for shock, caffein is preferred; adrenalin should be avoided; digitalis is rarely needed at this stage, being indicated only in the presence of a failing heart, with rapid rate, particularly in the presence of auricular fibrillation. Oxygen administered by the oxygen tent or through the nasal catheter may help to control the pain. (Lewis)

Absolute confinement to bed is necessary from the onset of the condition. The mortality rate is much higher and death much earlier in those cases which for some reason fail to take the proper amount of absolute rest. The most dangerous time for the patient to be up and about or to undertake any activity whatsoever is about the 5th to the 21st day, during which period there is so much softening of the infarcted area that it is in danger of rupturing. Many patients stand considerable moving about the first day or so with surprising lack of bad results. The length of time for which it is necessary for the patient to remain in the recumbent position depends somewhat on the severity of the attack and the patient's reaction to it. He should never be allowed to sit up in bed inside of four weeks in mild cases, the average being about six weeks. It takes from six to eight weeks for the myomalacial area to heal, i. e.: to become fibrous tissue. This is the period of absolute bed rest (no bathroom privileges) in all suspected cases of coronary thrombosis. Toward the end of this period it is well to start with mild bed calisthenics. Much attention may be necessary in a chronic case to prevent the occurrence or recurrence of serious complications, but each patient must be considered individually on each occasion and not be made to follow any set rules. It need only be said that any activity or strain of doubtful effect should be avoided, unless the patient is thereby too depressed or unhappy. A balance must always be sought between too much and too little restriction of life, not only from the standpoint of longevity but also from that of happiness. Acute coronary occlusion must be regarded more seriously than most cardiac conditions. By wise treatment at the start, life may doubtless be prolonged for years in some cases. At times after coronary thrombosis when the patient is feeling well and therefore perhaps too active, sudden death from cardiac rupture or other cause may occur; sometimes, however, this accident is not preventable.

The diet in the first days is limited by the patient's disinclination to take much. A little liquid nourishment will suffice for the first twenty-four hours or so, and thereafter the food should be small in bulk and high in carbohydrates. For this purpose cereals and soft puddings are the most appropriate. The diet may be varied as time goes on by the addition of eggs, vegetables, fruits and ultimately a little meat, by the time the patient is quite afebrile and perhaps growing hungry. Many cardiologists advocate the intravenous injection of glucose solution during the stage of softening, which is about the 5th to the 21st day and this is frequently used if the patient is threatened with congestive heart failure. I prefer small amounts, say 10 or 20 cc of 50 per cent solution for fear of adding seriously to the load on the heart.

The straining of constipation is dangerous; mineral oil should be administered regularly from the first day.

Coronary dilators in the form of aminophyllin or one of the theobromine salts may be given if the patient's stomach will tolerate them, in the hope that the development of a collateral circulation will be encouraged in this way. They frequently cause gastric irritation, and those cases which have received them do not seem to progress in any way different from those which have not.

When the patient begins to get up, the time out of bed is very slowly increased so that by the end of eight to twelve weeks he is up and about the room off and on throughout the day. It is well for him to rest immediately after meals for a long period and it is well for him to remember that the heart is most vulnerable early in the morning, so that when activity is commenced it should not for a long time be begun too soon after breakfast. By the end of eight to twelve weeks the patient should be able, as a rule, to negotiate stairs, in mild cases perhaps even before this time. Then in mild weather he may begin at this period to go out doors, either to sit or wander about a little. If this period comes during the winter months it is a real advantage to ship him south, where he can avoid the cardiac strains of wind and cold weather and can be out doors more of the time. The problem of resuming work depends not only on the condition of the patient, but upon the conditions of his occupation. He is very lucky if he is able to start doing part time work. The period at which this is allowable varies greatly with the individual as with the job. If it can be postponed for six months it is usually best and after a severe attack a year off is none too much. The outlook for these patients is perhaps better/on the whole than most of our figures imply, but at best, congestive heart failure and recurrence of the occlusion are so frequent that there can be no doubt about the wisdom of a patient who has once suffered this accident planning the rest of his life on a scale of reduced activities. These patients should be educated and persuaded to carry on a reasonable degree of activity only. If an individual will squarely face his limitations, learn them, and then live within them, forgetting that there are limitations, there is no reason why he may not lead a contented and useful life. This involves relatively short hours at work if possible, avoiding hurry and worry, a noontime rest to break the day in two, and a long vacation every year if possible. In an analysis of the immediate cause of death in one hundred such cases, Green and Burton found that practically all followed unusual activities which could have been avoided.

DISCUSSION

W. L. Tyler, Owensboro: In consideration of coronary occlusion, I think we should fully realize the pathological condition with which we are dealing. In almost every case of occlusion the predisposing cause is a change from normal in the coronary vessels. It has been conceded that nearly all cardiac pain is due to an inadequate supply of blood to the myocardium, which is a result of some pathological condition in the coronary vessels, so it is that all cases of coronary disease should be considered a potential case of occlusion.

Regarding symptoms, it is difficult to differentiate between pain of angina in complete occlusion and occlusion. The pain of occlusion is more intense and of longer duration and associated with evidence of shock and impending death. It is sometimes difficult to make a diagnosis early, as the pain is often referred, and one is confronted with the importance of recognizing the symptomatic similarity of coronary occlusion and unrelated pathological conditions in the chest and abdomen. Occasionally the differentiation is difficult, but matters may be simplified by thinking first of possible conditions occurring above the diaphragm and then of those of the abdomen. The temperature and leukocyte count are helpful in estimating the extent of the infarct and the degree of collateral circulation. The extent of the dyspnea represents a measure of the response of the myocardium. When cardiac failure develops, the respiratory distress gradually assumes a prominent aspect in the clinical picture.

The electrocardiogram is not diagnostic within itself. It was formerly thought that the T wave furnished the only significant information in coronary occlusion. In 1926, Wilson called attention to Q wave changes which are now fairly well established. Since then S wave changes have been accepted as significant, as well as recent attention to the P wave. We are now compelled to consider the graph as a whole rather than one particular deflection. The electrocardiogram is very valuable in arriving at the character and degree of damage to the myocardium during convalescence.

Faced with the treatment of a patient with coronary occlusion, it is necessary to be equipped with a clear concept of the pathological process so rapidly taking place in the crippled heart. From a purely therapeutic point of view, coronary occlusion should be divided into three readily distinguishable stages: (1) the onset with its alarming symptoms of pain, shock and prostration lasting about forty-eight hours; (2) from about the third day to about the tenth, during which time all signs and symptoms of necrosing heart muscle become evident (3) the stage of convalescence, which is exceedingly slow, not infrequently lasting for weeks and months. With these facts in mind, therapeutic measures will be successful only in so far as the proper stage of the disease is recognized, for the treatment in one stage may be decidedly contraindicated and perhaps hazardous in another. For this reason, any consideration of treatment in this disease must be based entirely on the stage in which the patient is seen.

Symptomatic medication has been well stated by the essayist. However, I am obliged to emphasize the value of rest in the treatment of this condition. To me the treatment of coronary occlusion is not unlike that of tuberculosis, before the institution of newer surgical procedures when the full importance of rest was emphasized. Statistics and personal experience justify a more favorable prognosis than a few years ago. To my mind, the essential factor in reducing mortality and increasing the per cent of recoveries has been rest, both physical and mental, over a long period of time.

In summary of this discussion, I should like to emphasize three points which one should keep in mind when considering a case of coronary occlusion: (1) a clear, distinct picture of the pathological condition in each stage of the disease; (2) recognize the symptomatic similarity of coronary disease and unrelated pathological conditions in the chest and abdomen; and (3) in all stages of the disease remember you are dealing with a damaged heart unable to bear its burden, so the necessity of using every available means of removing the cardiac load.

HYPERTENSIVE DISEASE OF THE BRAIN*

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Cerebral complications of hypertension have a dramatic and sudden character which quite justifiably arouses anxiety among the relatives and friends of the patient. The situation demands from the physician not only skillful handling but also a prognosis as to the immediate and ultimate outcome. Three separate causes of these complications are recognized—apoplexy, uremia, and what I have chosen to call hypertensive disease of the brain, or hypertensive encephalopathy, a term used by Oppenheimer and Fishberg. I shall discuss the first two conditions only as necessary to differentiate them from the third. Every one who has treated many patients with abnormally high blood pressure has seen hypertensive seizures, which are described under various names, false uremia, pseudouremia, transient paraplegia, acute uremia, hypertensive encephalopathy. In spite of this, relatively little has been written concerning the pathogenesis of this condition or by way of analyzing the symptom complex. It is the purpose of this paper to point out the salient clinical features of hypertensive disease of the brain and to present in brief the most tenable theories for its causation.

A brief report of a case recently seen will illustrate many of the common features of hypertensive encephalopathy. The patient was a woman of 52 who was first seen by me July 13, 1936. Recently she had been under severe mental strain. About three weeks previous she had a short spell of unconsciousness preceded by severe pain in the head, an attack considered by her and the family to be an ordinary fainting spell. This was repeated three days before I saw her and since she had rarely if ever fainted before, she asked a pediatrician who was attending one of the family to take her blood pressure. He found a systolic pressure of 185 and suggested that she consult me. The day before I saw her she was somewhat irrational for a time and complained of severe pain in the head. An osteopath who was summoned told her that her blood pressure was over 200. When I saw her she was lying quietly in bed, but in an obvious anxiety state. She was moderately pallid and complained of severe pain in the head and back of the neck. The blood pressure was 168-80. The retinal arteries showed moderate widening of the reflex stripe with slight beading and tortuosity. Otherwise the fundi were not remarkable. The general examination showed only those findings expected with a moderate hypertension. The neurological examination was entirely normal.

Three and one half hours later, while lying quietly on her face she was suddenly seized with a convulsion. The head was drawn back and the knees were flexed on the thighs. She became cyanotic and breathing was sterterous. There was loss of bladder control. In a few minutes the convulsion ceased and she lapsed into coma. When seen by me about fifteen minutes after the onset of the attack, she was in deep coma and had a complete flaccid paralysis of the entire right side of the body including the face, with spontaneous Babinski on the right. Both knee jerks were present and normal. The pupils were not dilated and reacted normally to light. The blood pressure had risen to 180-90. Within three hours the paralysis disappeared entirely and all the abnormal neurological findings were gone. The patient appeared no different than before the attack and remembered nothing of what had happened.

The next morning at 10 a. m. her appearance and physical findings were unchanged except that the blood pressure had risen to 200-95. The urine obtained at this time showed a specific gravity of 1020 with a trace of albumen, and was otherwise normal. An hour and a half later, she suddenly became comatose and cyanotic with sterterous breathing. At this time there were no palsies nor abnormal neurological findings. Within an hour the attack passed away completely. At 2 p. m. the blood pressure was 185-90 and her condition and physical findings were as on my first examination. At 5:30 p. m. she suddenly became unconscious and died within a few minutes.

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*Read before the Kentucky State Medical Association, Paducah, October 5, 6, 7, 8, 1936.

Autopsy showed a hemorrhage into the third ventricle originating in an area of fresh apoplexy in the left thalamus. There was no evidence of older hemorrhage and there were no other lesions in the brain. There was no unusual sclerosis of the cerebral vessels. The remainder of the autopsy was not remarkable. While death in this instance was obviously due to the brain hemorrhage it seems illogical to try to explain the spell of unconsciousness three weeks previous or the chain of events of the last two days on the basis of a slowly progressing hemorrhage which suddenly became massive. I consider that the apoplexy was a terminal event occurring just before death and that the earlier seizures were manifestations of hypertensive encephalopathy.

Hypertensive disease of the brain is seen most commonly in the course of acute glomerulo nephritis, less commonly in subacute and chronic nephritis and in essential hypertension, almost never in nephrosis. There is close similarity in symptomatology to the seizures of eclampsia and lead encephalopathy. Before the onset of the attack prodromal symptoms are common, particularly, apathy and headache. The blood pressure almost uniformly rises at this time, often to extremely high levels, and during the attack it is always elevated unless there is coincident acute heart failure. The attack itself comes on suddenly and the full blown picture is much like the first seizure experienced by my patient. At the onset there is usually pallor which gives way to cyanosis as the attack becomes more severe. Opisthotonus at first, followed by clonic convulsions, is usual. Following the convulsive stage is a period of coma. Sphincter control may be lost. The pupils may or may not be dilated and the light reaction may be retained or lost. Transient hemiplegia or less complete palsies with all sorts of abnormal neurological findings are common. Less severe attacks may show only a few of these characteristics, such as transient loss of consciousness, paralysis, aphasia or amaurosis. The most characteristic common denominator of all attacks is that they clear completely within a relatively short time leaving no abnormal neurologic findings. When death occurs during an attack it is usually due to acute cardiac failure induced by the rise in blood pressure, much less commonly it is due to apoplexy. Often the cause of the hypertension is not incompatible with recovery and if the patient survives the acute attacks he may continue in good health. One patient was seen by me three times in one day, each time with a transient hemiplegia which cleared completely within thirty minutes. He lived two years longer without further attacks and died of lobar pneumonia.

Any discussion of the pathology of hypertensive encephalopathy must be based to some extent on assumptions drawn from indirect evidence. It has been thoroughly demonstrated that hypertensive attacks may occur entirely independent of any important impairment of renal function. Even the most severe attacks may occur in the presence of normal concentrating power of the kidneys and normal phenolsulphonphthalein excretion. Furthermore there is usually no important retention of nitrogenous products in the blood. In view of this it seems unwise and misleading to use such terms as false uremia, pseudo-uremia, and acute uremia to describe this condition. The one constant finding is an elevated blood pressure which characteristically goes up with the onset of the attack.

The morbid anatomy of hypertensive disease of the brain is not entirely clear. Meakins has demonstrated that patients with marked hypertension dying of cerebral hemorrhage often show at autopsy evidence of multiple small vascular lesions. He terms this arteriolar infarction and considers it to be due to stasis of blood and anoxemia in the arteriole beyond a point of constriction with subsequent increased permeability of the vessel wall and hemorrhage by diapedesis. However, in many cases showing the typical picture of hypertensive encephalopathy the brain at autopsy shows little. The paucity on anatomical findings leads to the assumption that in these instances the attacks are due to abnormality of function rather than to organic lesions. There may be oedema, which is sometimes extreme, but this is not a constant finding. Volhard considers this acute oedema to be the most important factor in the seizure. It seems illogical, however, that post-mortem evidence of oedema should be an inconstant finding, if this were the sole cause of the seizure. The most widely held view at present is that arterial hypertension is induced by a general constriction of the peripheral arterioles and what little direct evidence we have seems to indicate that the cerebral arterial system responds to stimuli much as do arteries and arterioles elsewhere. Marked spasm of the retinal arterioles has been directly observed during attacks of acute hypertension, in certain instances accompanied by loss of vision which was relieved when the blood pressure dropped to a lower level. Oppenheimer and Fishberg consider such a spasm in the cerebral arterioles to be the primary cause of the hypertensive seizure and they point out that in many instances the brain is pale and almost bloodless when examined after death during a hypertensive attack. They consider oedema of the brain merely as a contributing factor.

The differential diagnosis of hypertensive cerebral seizures is usually easy in retrospect, but may be well-nigh impossible when seeing the patient for the first time in an attack. The cerebral symptoms of eclampsia and of acute lead poisoning are frequently identical with those of hypertensive encephalopathy. Oppenheimer and Fishberg consider that these conditions all have the same pathogenesis, that is, an arterial hypertension with cerebral arteriolar spasm. According to this conception eclampsia and lead encephalopathy would be considered as forms of hypertensive disease of the brain with definite etiologic background.

In patients with diffuse glomerulo nephritis, the differential diagnosis of uremia and hypertensive encephalopathy may present difficulties. The marked increase in blood non-protein nitrogen elements which occurs in uremia is not found in the hypertensive cerebral attack, although where underlying nephritis causes the hypertension a certain amount of nitrogen retention may be expected. The uremic attack is rarely as transient and after it passes there is usually less mental alertness than in hypertensive disease of the brain. Without laboratory facilities for kidney function and blood chemistry determination, the differential diagnosis may be extremely hazardous.

Apoplexy may present a puzzling problem, particularly in essential hypertension. It is well recognized that small hemorrhages or an intermittent progressive hemorrhage may cause transient paraplegias, periods of coma, convulsive seizures, in fact everything described for hypertensive encephalopathy. However, where the symptoms are produced by rupture of a vessel, the changes are less sudden than in the hypertensive seizure. While the palsies may disappear rapidly, it is unusual for the neurological picture to become completely normal in a matter of minutes or at the most a few hours after the onset of the attack. Where a complicating apoplexy terminates the picture, the absence at autopsy of evidence of earlier hemorrhage to explain attacks occurring days or weeks before may be necessary to definitely clarify the picture.

In those cases where epileptiform convulsions occur, true epilepsy must be excluded. Biting of the tongue may occur in hypertensive encephalopathy but scars of old bites are usually absent. The blood pressure is usually elevated much more in the hypertensive attack. Examination of the fundus of the retina may be helpful, since there are usually vascular changes found in hypertensive disease of the brain.

Certain cases of brain tumor are accompanied by convulsive seizures and by marked elevation of the blood pressure, and may present a difficult diagnostic problem. The ocular fundus may not be particularly helpful, as certain cases of hypertension show choked disc and conversely degenerative choroidal changes may be found in brain tumor. The evidence of chronic nephritis on urine examination may be helpful in certain instances. Persistent abnormalities on neurological examination are not characteristic of hypertensive encephalopathy and should arouse suspicion of a focal organic lesion.

The treatment of hypertensive seizure is highly important and should be directed toward a speedy improvement in the cerebral circulation. If the inciting factor of the hypertension is not a progressively fatal condition, complete recovery may ensue if the patient can be tided through the acute attack. Of all methods of producing relief from symptoms of excessive hypertension, probably none is superior to the time honored expedient of blood letting. Unless there is severe anemia, 400-500 c.c. of blood can be withdrawn without harm and often speedy relief follows. If this is done during the prodromal stage of a seizure the attack may be completely averted. The analogy to the relief from bleeding obtained in hypertension with cardiac asthma is immediately apparent. Since it now seems well established that cardiac asthma is due to acute interstitial oedema of the lungs, this would lend weight to Volhard's theory of acute oedema of the brain as a cause of hypertensive encephalopathy. Whatever the mechanism, venesection is a valuable aid in the treatment of severe hypertensive cerebral seizures.

A second useful procedure, which is not without some risk, is lumbar puncture. As demonstrated by Fay and the group at Temple University, reduction of the cerebrospinal fluid volume must result in increase in the blood volume of the brain, since the skull is a closed, rigid cavity and removal of a given quantity of fluid necessitates replacement by the only other fluid available, the blood in the cerebral vessels. The danger arises from the fact that if there is any considerable degree of cerebral oedema there may be molding of the brain stem into the foramen magnum with obstruction to the free circulation of a cerebro-spinal fluid, so that sudden lowering of the pressure in the spinal canal may cause quick death by forcing the brain stem into the foramen magnum. For this reason the puncture should be done with care and the fluid removed slowly, particularly if there is papilloedema on ophthalmoscopic examination.

The use of magnesium sulfate either intravenously or intramuscularly, or by mouth or rectum, is recommended in the treatment of hypertensive seizures and has been used rather extensively by obstetricians in treating the seizures of eclampsia. It is often prompt in its relief of symptoms and may also be effective in preventing the recurrence of attacks. The mechanism of its effect is probably only partially its action as a hypertonic solution, it having been suggested that there is also a specific relaxing enect on the smooth muscle of the arterial walls.

Of the sedatives, morphine is probably the most effective in controlling the seizures. It is particularly useful because it is readily available in the emergency and often it will be found adequate for the situation. Convulsions may be stopped in some instances by the use of intravenous sodium amytal, but caution is advised because of the possibility of collapse. After the attack is past sedatives are especially valuable in preventing a recurrence. Those drugs in the chloral and barbital groups are the most useful. In addition, absolute quiet and as complete absence as possible from external stimuli is desirable. Any excitement or nervous strain may precipitate again the vascular spasm and the mounting hypertension.

The prognosis in hypertensive disease of the brain must be guarded. While the transient character of the attack implies a relatively low immediate mortality, the encephalopathy itself is always a manifestation of serious general disease which is apt to result fatally in the not far distant future. There is always a concomitant hypertension which is most frequently the result of serious nephritis or essential hypertension. Thus it is not surprising that true uremia frequently ensues after one or more attacks of hypertensive encephalopathy, rendering the prognosis much more grave. As already indicated, apoplexy may ensue, probably induced by the excessive rise in blood pressure accompanying the attack. Acute cardiac failure occurs in certain instances unless prompt treatment is given, or even in spite of therapeutic measures. While a hopeful outlook may be given for the immediate attack, the prognosis must consider what is to be expected from the fundamental pathology which underlies the hypertension.

Hypertensive disease of the brain is a clinical syndrome not infrequently observed. It occurs in any condition attended by marked increase of the arterial blood pressure, notably acute and chronic nephritis and somewhat less often in essential hypertension. It is often identical clinically with the seizures of eclampsia and lead encephalopathy and quite likely has the same mechanical background. Its pathogenesis is somewhat obscure, two chief theories being advanced, that of acute cerebral oedema sponsored by Volhard and that of cerebral vasoconstriction favored by Oppenheimer and Fishberg. The interesting observation by Meakins of small hemorrhages around arterioles in the brain is explicable on the basis of prolonged vasocontriction with anoxemia beyond the point of narrowing. It is hoped that further studies of the physiology of the cerebral circulation and further observations of the post-morten findings may clarify the problem of pathogenesis. The differential diagnosis is usually clear when several attacks of unconsciousness, convulsions, or transient paraplegia have occurred. However, the acute attack may be extremely difficult to distinguish from uremia, apoplexy, epilepsy, or brain tumor with convulsive manifestations. Treatment is aimed at improvement of the cerebral circulation and sedation of the patient. Except in the relatively rare instances of acute cardiac failure, recovery from the acute attack without residual symptoms is the rule, but there is a marked tendency toward recurrence of the attacks. The ultimate prognosis depends to a large extent on the underlying condition causing the elevation of blood pressure.

DISCUSSION

W. E. Gardner, Louisville: Without attempting to be facetious I should just like to state that we are very fortunate in having heard this splendid paper by Dr. Fortune. Dr. Fortune, based upon his own experience and that of others, is inclined to accept the theory that these transitory attacks of paralysis, loss of consciousness, perhaps aphasia, vertigo, which had formerly been thought to be due to slight hemorrhages, so-called punctate hemorrhages or slowly progressive hemorrhages, are not due to coarse vascular lesions, as had been at one time believed, but are frequently due to cerebral arteriolar spasm, and I am quite in agreement with his position in that regard.

He speaks of the edema which is sometimes found at autopsy, referred to by Volhard, which he believes is of secondary importance and perhaps only a contributory factor.

The term angiospasm to account for these transitory attacks of loss of consciousness, paralysis, vertigo, and so forth, has been used for a good many years, and it has been believed for a long time this was due to a spasm of some of the primary or larger blood vessels of the brain, but now we are inclined to accept the theory that it is an arteriolar spasm and perhaps only in more advanced cases where there is definite arteriosclerosis involving the larger blood vessels would a coarse cerebral vascular lesion account for attacks with more residual paralysis.

These conditions occur in relatively young people, that is in middle age or during the active period of life. People think about arteriosclerosis and perhaps arteriolar sclerosis as being diseases of old age, but we know these conditions occur in individuals forty, forty-five, fifty years of age, and sometimes in those who have run only moderately high arterial hypertension. As was indicated in the previous paper, we are not always able to determine just how much hypertension an individual has had, and how long, when some of these cerebral vascular accidents occur, just as is true in heart attacks. It is important, if a person has a moderate degree of hypertension, as Dr. Dowden says, without making the individual too hypertension conscious, that he have some observation from time to time and some advice about regulation of habits of rest and recreation, as well as some attention to the kind and quantity of food and drinks included in his daily diet.

Dr. Fortune did not speak of the psychic components associated with cerebral hypertension except in reference to the temporary confusional states, stupor, and so forth, which sometimes occur. He did refer to the fact however that in differentiating uremia the clouding of consciousness is more prolonged than it is following these arteriolar spasmodic attacks, and that the patient clears up mentally relatively soon without any residual paralysis frequently, as opposed to that following coarse organic brain lesions. Of course we can understand why in nephritis there is more of a toxic factor which would prolong the confusional state, clouding of consciousness, and so forth, whereas in the ordinary case of hypertensive encephalopathy, frequently not associated with uremia and very little toxemia, there is a relatively prompt clearing of consciousness.

I believe that when it does occur the convulsion has compensatory beneficial effect in relieving the anoxemia which probably takes place beyond the spasm of the arteriole, and it is surprising, sometimes, to see how clear the individual will be immediately after a convulsive seizure.

Dr. Fortune went into further points of differentiation, with which I heartily agree. Essential epilepsy is usually a thing which begins in relatively early life, in childhood. In adults, we have a history of previous attacks, old scars about the tongue, scalp, and so forth, and it can usually be very easily differentiated from the history, just as nephritis, acute and subacute, by the functional kidney tests.

One could speak at length regarding a paper like this, but I doubt if it would add very much to the value of the discussion. However, I should like to say in closing that we are indebted to Dr. Fortune for this valuable paper, and it has been a distinct contribution to a more practical understanding of the mechanisms associated with these transitory attacks of loss of consciousness, apoplectiform and epileptiform attacks, vertigo, aphasia and sometimes tremor, which were heretofore thought in many instances to be due to rather definite lesions of the cerebral vascular system. We now accept the theory that they are more due to arteriolar spasm, a condition which we see as somewhat analogous coronary attacks in hypertensive heart disease.

Glen Spurling, Louisville: There is but one type of hypertensive encephalopathy on which I wish to comment, that is, the case of the young patient with essential hypertension who suffers with excruciating headache and other signs of increased intracranial pressure. Many of these cases are eventually complicated by loss of vision from choked disks. Headache, vomiting and visual loss may occur when there is no clinical or laboratory evidence of nitrogenous retention in the blood. This type of encephalopathy is the one to which Max Peet's classical case belongs. His patient was completely relieved of symptoms by resection of both splanchnic nerves. The cerebral pathology responsible for these symptoms is still imperfectly understood. Apparently there is a tremendously elevated intracranial pressure from edema of the brain. For an equally inexplicable reason, splanchnic resection in this type of case relieves the distressing symptoms. In most cases, however, splanchnicectomy does not stop but temporarily the course of the disease. I have operated upon two cases of this type who were completely incapacitated with headache, both with badly impaired vision, who, following splanchnic resection, remained free of these symptoms until their death some two years later. According to the last reports from Peet's case, his patient not only remains free of cerebral symptoms, but the blood pressure has remained at an essentially normal level since the operation.

The status of splanchnic resection for essential hypertension is still in a nebulous state. However, from the accumulated data, it would seem that certain young individuals with minimum kidney damage can be symptomatically relieved and life prolonged by resection of the splanchnic nerve.

ANGINA PECTORIS*

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Covington.

Angina Pectoris was the name given by Heberden in 1768 to a symptom complex which today is looked upon as a disease entity. We define angina pectoris as a strangling or gripping sensation (not a stabbing pain or ache) under the sternum, occuring paroxysmally as a result of exertion, excitement or other stimuli, and subsiding within a few minutes under the influence of rest or nitrites. The diagnosis of angina pectoris must be made upon the subjective symptom that the patient must experience a pain. According to White, there can be no Angina Pectoris if pain is not present and the term "angina pectoris sine dolere" is very unsatisfactory and confusing and should be dropped. In contrast to coronary thrombosis, which may be painless, angina pectoris is a symptom, and if that symptom is absent, we cannot call other symptoms such as giddiness or an all-gone feeling angina pectoris even though coronary disease is present. Radiation of the substernal oppression to the left or right, or to both sides across the chest towards or into the axilla is common, but more so in the left side. Radiation to the left upper arm is frequent. to the left lower arm less common and to the left hand and fingers relatively infrequent. Radiation to both arms occurs occasionally, but to the right arm alone rarely. Radiation to the middle and to either side of the neck occurs occasionally, but to the back very rarely. As a rule, the more severe the substernal oppression, the more extensive the radiation, but there are frequent exceptions to this rule.

Many theories on the cause of Angina Pectoris have been advanced, but even today its etiology is not fully known. It is the concensus of qualified opinion that angina pectoris is a sign that the heart is unable to meet the demands made upon it and that the underlying cause is a temporary coronary insufficiency causing an anoxemia of the heart muscle. Several pathological conditions may give rise to angina pectoris; one of the most common of which is a partial or complete closure of one of the main coronary arteries, or a branch, as a result of coronary thrombosis. Another condition often associated with the one just mentioned, is the narrowing of these vessels by sclerosis. The third important cause is the narrowing or closure of the mouths of the coronary arteries as a result of syphilitic disease of the aorta. Marked aortic stenosis and regurgitation has been advanced as a cause, and in rare instances anaemia and thyrotoxicosis. Jackson in a recent paper, believes that the coronary artery spasm explanation is erroneous, and that angina pectoris is due to acute incoordinated spasmodic contractions of the oesophagus and stomach whereby gas and other stomach contents are entrapped under pressure and the walls of either viscus with their contained or adjacent nerves are strained or injured.

The diagnosis of angina pectoris is based primarily upon the symptoms elicited from the patient as it is rare to see a patient in an attack. The distinctive character of the pain of angina pectoris is that it can always be provoked by effort; it is paroxysmal, usually felt in front of the chest, under the sternum, down the arm, and is relieved by rest and nitrites. An emotional upset, a heavy meal, exposure to cold, may initiate an attack or favor the onset of pain after exercise. An attack can occur when the patient is at rest and not be known to any exciting cause. The pain is of short duration but may recur at frequent intervals. Lewis stresses the fact that the pain is uninterrupted; anginal pain does not throb or stab; also that there is a consistency in the history of the response to effort. In angina of effort the pain of a given grade recurs with repetition of a particular act. From one third to one half of the patients have hypertension but Eppinger-Levine note the rarity of low or normal blood pressure findings in women with angina which is very helpful in diagnosis. The presence of signs of definite heart disease will help establish diagnosis in cases of doubt.

The electrocardiogram may be of some aid although usually shows no abnormality except intraventricular block or coronary T waves. In doubtful cases it is neither wise nor conclusive to give epinephrine as a diagnostic test.

The differential diagnosis of angina pectoris is as a rule, not difficult. The most important condition is coronary thrombosis. The coronary thrombosis syndrome is a definite clinical picture, easy to recognize and quite different from angina pectoris. The pain is anginal in character and distribution and lasts for hours or days; it is sudden at the onset, gradually fades away, usually occurs when the patient is at rest and is often accompanied by a considerable degree of respiratory distress. Nitrites do not control the pain. Occasionally breathlessness is a conspicuous symptom and pain is absent; and in these cases the electrocardiograph with characteristic changes is usually required to establish a diagnosis. Vomiting is a commonly associated symptom, and when accompanied by abdominal pain, may lead to be a mistaken diagnosis of an acute surgical condition. Symptoms of shock with a rapid pulse, low blood pressure and weak heart sounds may be a striking part of the picture. There is generally a rise of temperature for a few days or weeks, a leucocytosis is the rule, and occasionally a pericardial friction rub can be heard.

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*Read before the Kentucky State Medical Association, Paducah, October 5, 6, 7, 8, 1936.

In neurocircular asthenia, one must separate the stabbing, sharp knife-like pains, or the dull, prolonged heartache. It is this pain that is often referred to as pseudo-angina. One must remember however, that both neurocircular asthenia and angina can occur in the same patient.

Pericardial and pleural pain can be differentiated from angina pectoris by its prolonged character, its aggravation by respiration, its association with acute infections and by the presence of a friction rub.

Finally we must rule out pain in the chest not associated with the cardio vascular apparatus itself, arthritic conditions of the thoracic cage and fibrosis of the intercostal muscles. Usually in these cases the pain is located in other than the substernal region, its prolonged duration and its aggravation by movement; other causes of chest pain are usually subdiaphragmatic as peptic ulcer, gall bladder disease or gaseous distention of the stomach or colon. The pain in these conditions is usually prolonged, and in the case of gall bladder disease will be confused more often with coronary thrombosis.

The prognosis of angina pectoris depends upon the following three conditions: First from the standpoint of the ease with which the attack is provoked; Second, from the increasing frequency of the attacks, and third from the amount of organic heart disease present. As a rule, the average length of life of the average case is about seven years from the beginning of the attack. An element of uncertainty is the danger of coronary occlusion. Eppinger and Levine, in a series of cases, found that in patients who developed the disease before the age of 50 years, the duration of life was two to three years longer than those in whom it developed after the age of fifty years. Approximately 50 per cent of patients died suddenly; an additional 30 per cent died of coronary thrombosis. Many of the instant deaths in the former group were, no doubt, due to coronary thrombosis. Some 10 per cent died of congestive heart failure.

The medical treatment of angina pectoris divides itself into the treatment of the attack and treatment to prevent further attacks. Rest, nitroglycerine and amyl nitrite are well known to all of you, for the immediate attack. Standing or sitting still is of prime importance and of itself may cause the attack to subside quickly. Recumbency is to be avoided; in fact, if attack occurs at night in bed, the quickest relief is obtained by sitting or standing upright. If no nitrates are available, whisky or brandy may be used, but their action is rather slow. If luetic aortitis is present, careful anti-luetic treatment must be instituted. If severe anaemia is present, liver and iron therapy is indicated. Vaso dilating and sedative drugs given at intervals seem to help certain individuals, but of all the therapeutic measures rest is the most important. For each case the doctor should prescribe the amount of rest with as much care as if he were prescribing medicine. An hour of rest after the midday meal is to be recommended; strenuous exercise must be avoided and the patient must stop within the limit of his pain. Fishing is ideal but golf must be carried out very leisurely and where courses are not hilly. Excitement and anger must be avoided. Hurry and worry court unnecessary risks. Neither alcohol or tobacco appears to play any important part in angina pectoris although in certain individuals, according to White, the use of tobacco aggravates or precipitates the attack in angina pectoris. Hearty meals, foods difficult to digest or noted for favoring the accumulation of gas, and strong coffee had best be avoided.

Finally, we come to a group of intractable angina cases which do not respond to any medical therapy. It is this group of cases which must resort to surgical intervention. in carefully selected cases paravertebral alcohol injections have proved of value. Dorsal sympathectomy of the first three or four thoracic sympathetic rami communicantes with resection of the ganglion is the operation of choice if the patient is in good surgical condition. Lately Blumgart et al, advise a total removal of the thyroid gland for angina pectoris. The rational for total thyroidectomy in the case of angina pectoris is as follows: The work of the heart varies directly with the metabolic rate, and by making the patient with a normal metabolic rate hypothyroid, the work of the heart is greatly lessened, and angina pectoris being due to the heart working in the presence of an inadequate blood supply, improvement may be expected as a result of diminished work. The results in their series of cases show that anginal attacks occurring at rest (angina decubitus) disappeared immediately after operation, and that angina of effort improved up to complete relief in some cases.

In closing, let me repeat that Angina Pectoris is one of the most important and interesting conditions that we meet in the practice of medicine today. It is very erroneous to regard the diagnosis of this disease as a death warrant because we can do much to make the life of the patient easier and happier, and to some extent prolong his life.

DISCUSSION

J. Murray Kinsman, Louisville: I should like to add one word about thyroidectomy on these cases. I think where there is a very marked nervous element involved, thyroidectomy is not apt to be so successful as in patients who do not have that marked nervous element. We have seen some cases where it has been done with very little benefit, and I am quite certain that the reason for that is the presence of a very unstable nervous mechanism.

There is a little point about treatment which I heard at a meeting in the East last winter which I think is a very valuable point. In some of these intractable cases where pain is present a good deal of the time, including while the patient is at rest, the administration of small doses of nitroglycerine frequently has produced, in some cases, quite remarkable results. By small doses I mean doses as small as 1-500 of a grain of nitroglycerine, or even smaller than that, 1-1000 of a grain, given as often as every hour. I have personally seen two patients who were given doses of 1-1000 of a grain of nitroglycerine every hour who had pain which was almost constant which was unquestionably angina, whose relief from pain was complete. It was a most satisfying and rather unexpected result.

That dosage may be given either in the form of a liquid, the spirits of nitroglycerine being diluted one cc. up to 50 cc. of alcohol of which ten drops is equivalent roughly to 1-1000 of a grain, or it may be given in capsule form.

I had a patient given 1-1000 of a grain with complete relief, and had his capsules made progressively smaller until he was taking 1-1200 of a grain and still getting relief, after having suffered for many weeks and having had to rely on whisky several times a day.

From the standpoint of diagnosis, it is an extremely important thing to be certain that we are dealing with angina pectoris and not with some other cause of heart pain.

Dr. Schwertman has outlined several, at least, of the more usual diseases that might be confused with this condition. Just because a patient has pain in the region of the heart certainly does not necessarily mean that he has angina pectoris, and I am sure that most of us have had the experience of being very much undecided at times whether we were dealing with a case of angina pectoris or with something else.

I believe that the thing that is most likely to confuse us is perhaps effort syndrome. Dr. Schwertman mentioned the presence of constant aching pain over the precordium, or stabbing pains constantly present, not under the sternum, but in the precordial region, which to my mind makes the diagnosis presumptively at once not angina pectoris.

Unfortunately there is no disease in the whole realm of medicine in which we have to rely more on history and history alone than we do in the diagnosis of angina pectoris. In pain in the abdomen we have accessory findings such as tenderness or spasm; in pains elsewhere in the body we are apt to have accessory findings, but in the chest, no, there is nothing else. There may be an enlarged heart which may be present without pain; the electrocardiogram may or may not be normal; it is abnormal in many conditions where there is not angina pectoris, so that does not help us at all. The consequence is we are forced to turn back to a well taken and complete history.

Dr. Paul White last winter emphasized the importance of this condition when he reported a case in Detroit of a woman who entered the hospital to have a parivertebral alcohol injection done because of intractable angina pectoris. A careful history revealed the fact that the patient had her pains at a time when she also had palpitation. The upshot of it all was that it was discovered this patient had paroxysmal tachycardia and only during those paroxysms of tachycardia did she have pain. She was put upon quinidine and more or less cured. That emphasizes the importance of the history taking.

I have seen one patient with a proxysmal auricular fibrillation accompanied by pain who had pain at no other time except when there was fibrillation. I simply wish to emphasize what Dr. Schwertman has necessarily been rather brief in covering—the importance of a very, very careful history in order to make certain that we are dealing with angina pectoris.

Uretero-Oreteral Anastomosis.—Neuswanger devised a technic of transplanting the ureter which consists of cutting the ureter obliquely and placing a black silk stitch in the tip of the ureter; both strands are then threaded through a large straight needle and transplantation is effected by passing the needle through the recipient tissue. This is followed in turn by the ligature and ureter. This method was found admirably adapted for repairing a cut ureter and for uretero-ureteral anastomosis. Following its use in thirty-two animals it was used on a clinical case, in which three months later intravenous urography showed the kidneys and ureter to be unchanged and an anastomosis functioning normally.

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NEXT MEETING BEREA, SEPTEMBER 6-9

COUNTY SOCIETY REPORTS

Jefferson: The Jefferson County Medical Society met December 7 at the City Hospital at 7:45 P. M. After an interesting business session in which various committees gave their report and numerous communications were read the president, A. C. McCarty, turned the meeting over to C. W. Dowden who introduced the speaker of the evening, Chas. Hartwell Cocke, Asheville, North Carolina, who spoke to the society on "The Healing Processes in Tuberculosis." This address was given under the auspices of the Louisville Tuberculosis Association. It was not customary for visiting essayists to have their papers discussed but the subject was so well presented that the audience asked many questions and at the end of the program Dr. Cocke was elected honorary member of the society.

On December 21st the annual dinner meeting will be held at the Kentucky Hotel. All annual reports will be given followed by the election of officers for the ensuing year. The president-elect of the American Medical Association, J. H. J. Upham, M. D., Columbus, Ohio, will be the guest speaker.

U. H. SMITH, Secretary.

Boyd: The annual dinner meeting and election of officers of the Boyd County Medical Society were held at the Henry Clay Hotel, Ashland, Tuesday evening, December 1st, 1936, and the following officers were elected: President, H. E. Martin; Vice President, M. D. Garred; Secretary, C. B. Daniels; Treasurer, H. S. Swope; and Censors elected were, G. M. Bell, M. D. Garred, and Proctor Sparks. The society is planning to have a splendid program for each meeting and the new officers are cooperating in every way for an active new year.

C. B. DANIELS, Secretary.

Carlisle: The Carlisle County Medical Society met in joint session with Hickman and Ballard County Societies, at Bardwell, on Tuesday, December 1, 1936, and the following program was rendered:

Differential Diagnosis of Tuberculosis from a Clinical Standpoint by Ezra Tittsworth of Ballard County.

Report of Case of Mastoiditis and Amnesia by Willis Moss of Hickman County.

Treatment of Pleurisy by E. E. Smith of Carlisle County. A free discussion followed.

The following officers for Carlisle County were elected for the year 1937: President, J. F. Harrell; Vice President, R. C. Burrow; Secretary and Treasurer, J. F. Dunn.

There being no further business the society adjourned to meet at Clinton on the first Tuesday in March.

J. F. DUNN, Secretary.

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The vitamin C content of apples is markedly reduced during cold storage: 20 per cent in 4 to 6 months and about 40 per cent in 8 to 10 months (3).

Vitamin A in apples is, however, subject to less destruction than vitamin C during prolonged storage (4).

Prolonged cold storage of pears may result in a loss in the vitamin A and vitamin C content of nearly 50 per cent (5).

Further, solution losses which may occur during cooking vary with the individual product and with the method used in cooking. From 40 to 48 per cent of vitamin C may be lost to the water in which peas are cooked (6).

Vitamin C losses in 12 different vegetables have been reported to vary from 12 per cent in asparagus to 80 per cent in white onions (7).

These data demonstrate the seriousness of solution losses of vitamin C. It is considered probable that other water soluble vitamins are affected in a similar way.

Thus, by the time fruits and vegetables spend some days in transit or storage before reaching the kitchen and are cooked by the usual home method, much of the original vitamin content may have been lost. Little can be done to prevent storage losses when fresh fruits and vegetables are not available from the home garden, but solution losses may in part be overcome by using the cooking water.

Fortunately, in the commercial canning procedure, products are harvested at the optimum stage of maturity and canned immediately, using only a limited quantity of water which is retained in the can. As a result, storage losses of the vitamins are reduced (8), and solution losses may be eliminated by the use of the liquid in which the food is canned.

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(1) 1936. Food Research 1, 1.
(2) 1936. J. Soc. Chem. Ind. 55, 153T.
(3) 1933. J. Agr. Res. 46, 1039.
(4) 1936. Food Research 1, 121.
(5) 1934. J. Am. Diet. Assn. 10, 217.
(6) 1936. J. Nutrition 12, 285.
(7) 1936. J. Home Econ. 28, 15.
(8) a. 1921. Proc. Soc. Exp. Biol. Med. 18, 164
b. 1928. Ind. Eng. Chem. 20, 202
c. 1929. Ibid. 21, 347
d. 1932. J. Home Econ. 24, 826

This is the twenty-first in a series of monthly articles, which will summarize, for your convenience, the conclusions about canned foods which authorities in nutritional research have reached. We want to make this series valuable to you, and so we ask your help. Will you tell us on a post card addressed to the American Can Company, New York, N. Y., what phases of canned foods knowledge are of greatest interest to you? Your suggestions will determine the subject matter of future articles.

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CALENDAR OF COUNTY SOCIETY MEETINGS

COUNTY	SECRETARY	RESIDENCE	DATE
Adair	N. A. Mercer	Columbia	February 3
Allen	A. O. Miller	Petroleum	February 24
Anderson	J. B. Lyen	Lawrenceburg	February 1
Ballard	F. H. Russell	Wickliffe	
Barren	Paul S. York	Glasgow	February 17
Bath	H. S. Gilmore	Owingsville	February 8
Bell	R. F. Porter	Middlesboro	February 12
Boone	R. E. Ryle	Walton	February 17
Bourbon	W. B. Hopkins	Paris	February 18
Boyd	C. B. Daniels	Ashland	February 2
Boyle	P. C. Sanders	Danville	February 16
Bracken	J. M. Stevenson	Brooksville	February 1
Breathitt	Frank K. Sewell	Jackson	February 16
Breckinridge	J. E. Kincheloe	Hardinsburg	
Bullitt	S. H. Ridgeway	Shepherdsville	
Butler	G. E. Embry	Morgantown	February 3
Caldwell	W. L. Cash	Princeton	February 2
Calloway	Hugh L. Houston	Murray	February 4
Campbell-Kenton	C. A. Morris	Covington	February 4-18
Carlisle	J. F. Dunn	Arlington	February 2
Carroll	J. M. Ryan	Carrollton	
Carter	W. S. Hawn	Grayson	February 9
Casey	William J. Sweeney	Liberty	February 25
Christian	M. A. Gilmore	Hopkinsville	February 16
Clark	R. E. Strode	Winchester	February 19
Clay	J. L. Anderson	Manchester	February 9
Clinton	S. F. Stephenson	Albany	February 20
Crittenden	C. G. Moreland	Marion	February 8
Cumberland	W. F. Owsley	Burkesville	February 3
Daviess	W. H. Parker	Owensboro	February 9-23
Elliott	R. Eugene Wehr	Sandy Hook	
Estill	Tracy Wallace	Irvine	February 10
Fayette	John Harvey	Lexington	February 9
Fleming	C. W. Christine	Flemingsburg	February 10
Floyd	J. G. Archer	Prestonsburg	February 24
Franklin	Grace R. Snyder	Frankfort	February 4
Fulton	M. W. Haws	Fulton	February 10
Gallatin	J. M. Stallard	Sparta	February 18
Garrard	J. E. Edwards	Lancaster	February 18
Grant	C. A. Ecklor	Dry Ridge	February 17
Graves	H. H. Hunt	Mayfield	February 2
Grayson			
Green	S. J. Simmons	Greensburg	February 1
Greenup			February 12
Hancock	F. M. Grffin	Hawesville	February 1
Hardin	D. E. McClure	Elizabethtown	February 11
Harlan	C. M. Blanton	Harlan	February 20
Harrison	W. B. Moore	Cynthiana	February 1
Hart	S. F. Richardson	Munfordsville	February 2
Henderson	Walter O'Nan	Henderson	February 8-22
Henry	Owen Carroll	New Castle	February 22
Hickman	Charles Hunt	Clinton	February 4
Hopkins	David L. Salmon	Madisonville	February 4
Jackson			February 6
Jefferson	Arthur T. Hurst	Louisville	February 1-15
Jessamine	J. A. Van Arsdall	Nicholasville	February 18
Johnson	P. B. Hall	Paintsville	February 13
Knott	M. F. Kelley	Hindman	February 27
Knox	T. R. Davis	Barbourville	February 26
Larue	D. W. Gaddie	Hodgenville	
Laurel	Oscar D. Brock	London	February 10
Lawrence	W. C. Gose	Louisa	February 15
Lee	W. D. McCollum	Beattyville	February 13
Leslie	John H. Kooser, Act. Sec'y	Hyden	
Letcher	J. E. Crawford	Whitesburg	February 23
Lewis	J. D. Liles	Vanceburg	February 15
Lincoln	Lewis J. Jones	Hustonville	February 19
Livingston	William C. Davis	Smithland	February
Logan	Walter Bryne, Jr.	Russellville	
Lyon	H. H. Woodson	Eddyville	February 2
McCracken	Leon Higdon	Paducah	February 24
McCreary	R. M. Smith	Stearns	February 1
McLean			February 11
Madison	H. G. Wells	Richmond	February 18

COUNTY	SECRETARY	RESIDENCE	DATE
Marion	W. A. Risteen	Lebanon	Femruary 16
Marshall	S. L. Henson	Benton	February 17
Mason	O. M. Goodloe	Maysville	February 10
Meade	A. A. Baxter	Brandenburg	February 25
Menifee	E. T. Riley	Frenchburg	
Mercer	J. Tom Price	Harrodsburg	February 9
Metcalfe	E. S. Dunham	Edmonton	
Monroe	George E. Bushong	Tompknisville	
Montgomery	D. H. Bush	Mount Sterling	February 9
Morgan	W. H. Wheeler, Act. Sec'y.	Betsy Lane	
Muhlenberg	J. H. Harralson	Central City	February 9
Nelson	R. H. Greenwell	Bardstown	
Nicholas	T. P. Scott	Carlisle	February 15
Ohio	Oscar Allen	McHenry	February 3
Oldham	S. J. Smock	LaGrange	February 2
Owen	K. S. McBee	Owenton	February 4
Owsley	John R. Aker	Booneville	February 1
Pendleton	W. A. McKenney	Falmouth	February 10
Perry	J. M. Ray	Allais	February 8
Pike	F. H. Hodges	Pikeville	February 1
Powell	I. W. Johnson	Stanton	February 1
Pulaski	M. C. Spradlin	Somerset	February 11
Robertson			
Rockcastle	Lee Chestnut	Mount Vernon	February 11
Rowan	A. W. Adkins	Morehead	February 8
Russell	J. B. Scholl	Jabez	February 8
Scott	L. L. Cull	Georgetown	February 4
Shelby	W. P. Hughes	Shelbyville	February 18
Simpson	N. C. Witt	Franklin	February 9
Spencer	No Organization		
Taylor	M. M. Hall	Campbellsville	February 4
Todd	B. E. Boone, Jr.	Elkton	February 3
Trigg	H. L. Wallace	Cadiz	February 24
Trimble	J. J. Gerkins	Bedford	
Union	D. C. Donan	Morganfield	February 24
Warren	Hal Neel	Bowling Green	February 10
Washington	J. H. Hopper	Willisburg	February 17
Wayne			
Webster	C. M. Smith	Dixon	February 26
Whitley	C. A. Moss	Williamsburg	
Wolfe	G. M. Center	Campton	February 1
Woodford	Charles F. Voigt	Midway	February 4

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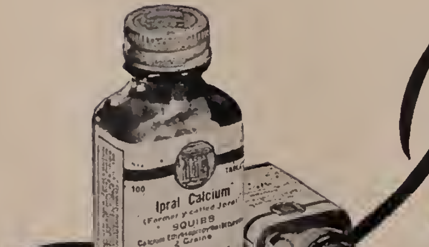

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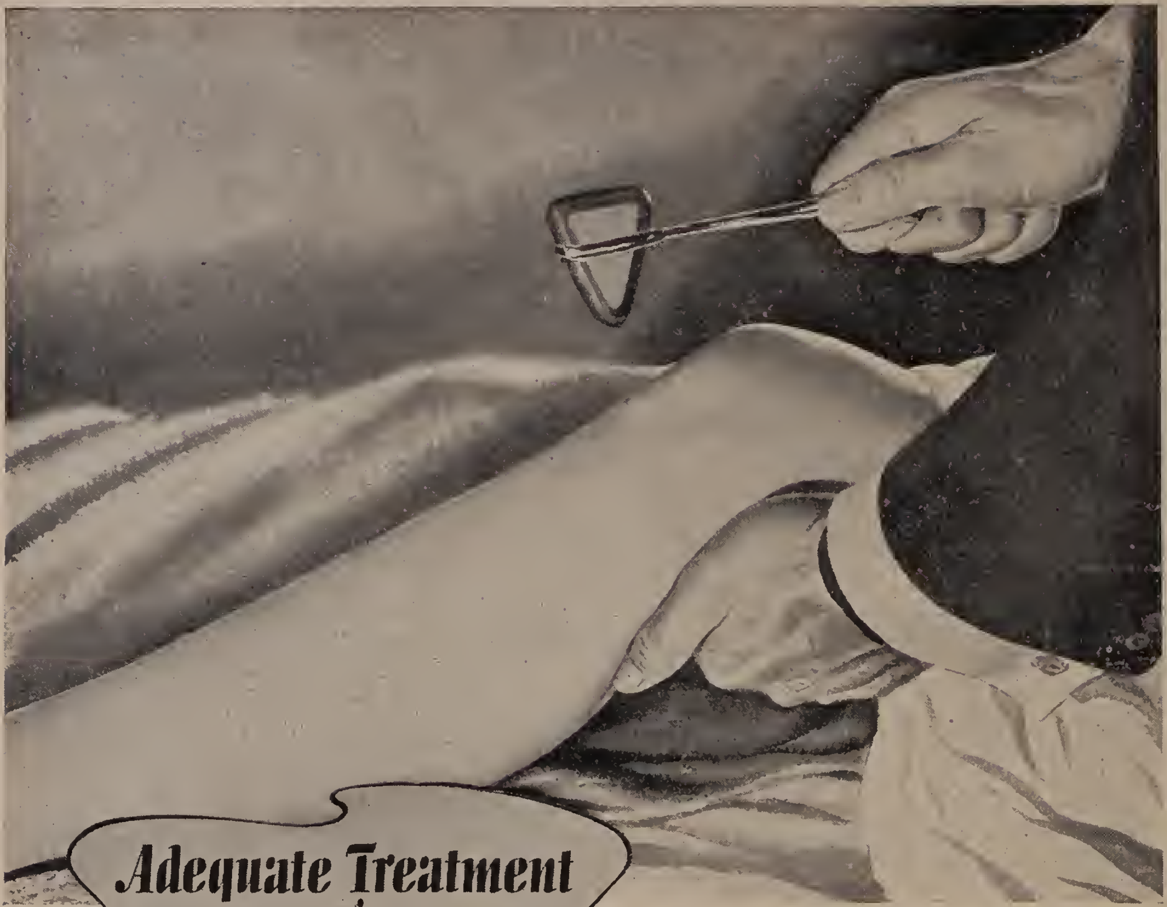

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Published Under the Auspices of the Council

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THE SOUTHEASTERN SURGICAL CONGRESS

The Southeastern Surgical Congress assembling in Louisville, March 8, 9 and 10, 1937 opens its eighth consecutive session in full confidence that this year will mark continued progress in the scope and scientific progress of the organization. Developed primarily because of interest in the advancement of surgery and medicine, the progress of this Congress has been due largely to the cooperation of the medical profession and its satellite units—the schools and medical societies—of cities in which the meetings have been held, as well as by the type of program which has been presented. In such an assembly successful intensive postgraduate work under the tutelage of distinguished teachers has demonstrated the interest of the profession of the South, as well as its demand for continuation of such service.

A program must first be made up of men of mature professional standing and experience whose presentation of diagnostic criteria, therapeutic methods, and end-results of types of treatment, are crystallized pronouncements upon the field of professional interest under survey. That the Southeastern Surgical Congress has amply justified itself as an authoritative postgraduate organization of the Southland under these criteria, is undeniable. The present program, made up as it is, of men of national and international reputation in the various specialties of surgery and medicine, promises to parallel favorably the offerings of any other of the former assemblies.

A special feature will be the C. Jeff Miller Memorial night dedicated to our late President. On the program this night will appear some of the most distinguished speakers in the United States, many of whom have received the highest honors in the gift of their professional brethren. Charles Gordon Heyd, M. D., President of the American Medical Association; J. H. J. Upham, M. D., President-Elect of the American Medical Association; Frederic A. Besley, M. D., President of the American College of Surgeons; Frank K. Boland, M. D., past President of the Southeastern Surgical Congress, and Southern Surgical Association, and present President of the Southern Medical Association; and Alton Ochsner, M. D., Professor of Surgery at Tulane University will give addresses on professional subjects.

The inimitable and beloved William D. Haggard, M. D., Professor of Clinical Surgery at Vanderbilt University, orator and surgeon "par excellence," recipient of many honors at the hands of the medical profession of North America, and devoted friend and class-mate of Doctor Miller, will deliver the memorial address.

This galaxy of professional stars guarantees a memorial night of unusual brilliance and interest. The inauguration of this lecture will, it seems certain, set a standard for the future which will demand worthy efforts of our most outstanding professional men. The rest of the program will be in the hands of more than thirty notable surgeons of the country representing, as they do, every branch of surgery and its varied specialties.

Lectures and clinics will fill the three days with postgraduate work representative of the highest talent and worthy of the attention of any professional audience. The round-table conferences and discussions open to all will afford opportunities for debating controversial points in the lectures offered each day. This feature and the efficient administration of the society which insures that everything clicks without lost motion, and on time, have been characteristic of all its meetings. The well-balanced program, the authoritative speakers, and the hearty cooperation of the profession of Louisville will appeal, one is sure, to the membership of the ten Southeastern states and some of their adjacent neighbors, insuring a popular and well-attended meeting of the same caliber and interest which this organization has always produced.

A SIGNAL HONOR

Probably no other branch of the medical profession is so highly organized as surgery. Among the many excellent organizations which are making progress in this great field of science and service, no other is so outstanding as the Southern Surgical Association. It is probably the most congenial group of really great men assembled on the American continent. At its recent annual session the Association further endeared itself to Kentucky by electing Dr. F. W. Rankin of Lexington as its President. This society was organized by the late Dr. Lewis McMurtry, who was one of its earliest presidents.

Drs. W. O. Roberts, A. M. Cartledge, John Young Brown and Irvin Abell have also held this honored position.

The JOURNAL can only felicitate the Southern Surgical Association on Dr. Rankin's selection. He is also President of the Southeastern Surgical Congress and has served as Professor of Surgery, both at the University of Louisville and the University of Minnesota. He is the author of several textbooks and has been a valued contributor to medical journals.

The whole profession of Kentucky will take pride in this deserved compliment to Dr. Rankin.

SOUTHERN SURGICAL ASSOCIATION

The forty-ninth annual meeting of the Southern Surgical Association assembled at Edgewater Gulf Hotel, Mississippi, December 15, 16 and 17th and was fully attended. The scientific program was full and most interesting. The Tinterest continued throughout the three days and the final morning's papers were most valuable.

One was reminded of the best meetings of former days when the leaders of surgical thought presented their views so vigorously in debate. Many of these men were missed by those in attendance but their memory still continues and stands for the highest ideals. Younger men of ability carry on the work so well begun years ago. The contributions of the Kentucky fellows were admirable and excellent.

Dr. Louis Frank presented a paper upon Hemolytic Streptococcic Infection of Iliac Lymph Nodes, and Dr. Frank Strickler contributed an illustrated essay upon a Satisfactory Method of Repairing Crucial Ligaments.

Dr. Hubert A. Royster, as toastmaster and Dr. W. D. Haggard, in awarding the prizes carried on in their usual inimitable style. The president's address of Dr. Harvey B. Stone was full of valuable suggestions. Dr. Glenn R. Spurling, in addition to his known surgical ability received the Surgical Association's trophy, a beautiful loving cup as a token of his proficiency at golf.

The report of the McDowell Memorial Committee by Dr. Irvin Abell showed the progress which has been made by this body with the Kentucky State Medical Association toward the establishment of a permanent Memorial to this pioneer surgeon. Mrs. Miller closed the evening with sketch of old Natchez.

Dr. Fred W. Rankin, Lexington, was elected President for the ensuing year and accepted in a brief and graceful acknowledgement of the honor conferred upon him.

THE CENTENNIAL OF THE UNIVERSITY OF LOUISVILLE MEDICAL SCHOOL

The University of Louisville Medical School is the second oldest Medical School now in existence west of the Alleghenys and the oldest Municipal Medical College in the United States. It celebrates its Centennial March 31st to April 3rd, 1937 at Louisville, Kentucky.

The Alumni are urged to make their plans now to attend their alma mater and participate in the celebrations. There is an unexcelled clinical program by outstanding guest speakers. Ward rounds daily at the Hospital and lectures in the forenoon and afternoon. There will be numerous scientific exhibits in the various departments of the University. For the visiting ladies unusually interesting entertainment has been provided. There will be motor trips through the beautiful local parks and to the famous bluegrass region. The historic Old Kentucky Home at Bardstown and Lincoln Memorial at Hodgenville are also included in the itinerary. Mammoth Cave is within easy motoring distance for those who wish to visit this natural wonder. Lexington and the famous race horse stables are but a short distance from Louisville and in the heart of the bluegrass region.

The March issue of the JOURNAL will contain full details of the Centennial including many interesting illustrations, history of the Medical School and the complete program of the celebration.

THE NEW ORLEANS GRADUATE MEDICAL ASSEMBLY

All members of the Kentucky State Medical Association are cordially invited to attend the New Orleans Graduate Medical Assembly which meets March 8-11, 1937, in the Roosevelt Hotel, New Orleans, Louisiana.

Both the medical schools and the hospitals join to make this one of the best meetings in the south. Eighteen speakers, representing the most recent advances in medicine and surgery are on the program, and four days of intensive instruction, clinical demonstrations, didactic lectures, and round table discussions are part of the medical treat that is to be offered.

For further information write to Doctor Thomas Benton Sellers, President, No. 1430 Tulane Avenue, New Orleans.

VISITING NOTABLES

The Jefferson County Medical Society had as its distinguished guests for December and January, Dr. J. H. J. Upham, Columbus, Ohio, President-elect of the American Medical Association, and Dr. Charles Hartwell Cocke, Asheville, North Carolina, one of the leading tuberculosis experts in America, whose address appears in a later issue of the Journal.

Dr. John A. Kolmer, Professor of Medicine, Temple University, Philadelphia, whose book is so widely used as a text book in all laboratories and medical schools, gave a most interesting lecture January 4th on Immunity and Vaccination in Infantile Paralysis.

The Graves and Warren County Medical Society had as their guest speaker, Dr. Harold Swanberg, Quincy, Illinois, Editor of the Radiological Review and the Mississippi Valley Medical Journal. The subject of his illustrated lecture was "Radium Treatment of Benign Uterine Hemorrhage."

Dr. L. W. Hackett, Assistant Director, International Health Division, Rockefeller Foundation, now stationed at Rome, Italy, being in charge of the malaria work in that country, was a visitor at the Journal's office and the State Board of Health.

Dr. Martin Krausz, Bucharest, Roumania, visited the Laboratories of the State Board of Health.

HONORS FOR KENTUCKY PHYSICIANS

Dr. C. W. Dowden, Louisville, is chairman of the Councilors of the Southern Medical Association.

Dr. Winston U. Rutledge, Louisville, is Secretary of the Section on Dermatology of the Southern Medical Association.

Dr. Irvin Abell, Louisville, is a member of the Board of Trustees of the Southern Medical Association.

Dr. F. W. Caudill, Louisville, is Third Vice-President of the American Public Health Association, Southern Branch.

Dr. A. D. Willmoth, Louisville, has been appointed Associate Editor of the Journal of Physical Therapy, published in Chicago.

THE HUMAN BEING

The approximate chemical analysis of a man 5 feet 8 inches tall, weighing 148 pounds has been made as follows: Oxygen, 92.4 pounds; hydrogen, 14.6 pounds; nitrogen, 4.6 pounds; carbon, 31.6 pounds; phosphorus, 1.4 pounds; calcium, 2.8 pounds; sulphur, .24 pound; sodium, .12 pounds; iron, .02 pound; potassium, .34 pound; magnesium, .04 pound; fluorine, .02 pound. These elements must be constantly replaced by the air he breathes, the water he drinks and the food he consumes, a deficiency in any lessens the vitality and predisposes his body to infections. It is essential in treating any disease especially of a chronic character to go over the patient's dietary habits.

AMERICAN ASSOCIATION FOR THE STUDY OF GOITER

The American Association for the Study of Goiter again offers the Van Meter Prize Award of $300.00 and two honorable mentions for the best essays submitted concerning experimental and clinical investigations relative to the thyroid gland. This award will be made at the discretion of the Society at its next annual meeting to be held in Detroit, Michigan, June 14, 15, and 16.

The competing manuscripts, which should not exceed 3000 words in length, must be presented in English and a typewritten double spaced copy sent to the Corresponding Secretary, Dr. W. Blair Mosser, 133 Biddle Street, Kane, Pennsylvania, not later than April 1, 1937. Manuscripts received after this date will be held for competition the following year or returned at the author's request.

ATTENTION

Every physician or dentist who has even one employee must make a report to the Bureau of Internal Revenue of the wages paid each month. The first report must be made in February including a check for one per cent deduction from the wages of each employee, to which he will add one per cent as his contribution to the purchase of the Old Age Assistance under the Federal Social Security Act. Blanks for making these reports can be secured from the Collector of Internal Revenue, at Louisville, or through any of his deputies in the State. This is a matter of the utmost importance and failure to make this report subjects one to heavy fine and imprisonment. Employees include assistant physicians, office attendants, nurses, chauffeurs, janitors, maids, or any other person to whom wages are paid. Where more than $3,000. is paid an employee no tax is required on amounts over this sum. The report must be made and tax paid monthly.

THE PRESIDENT'S ADDRESS

A CHANGE IN THE CHARACTER OF MEDICAL PRACTICE*

J. D. Northcutt, M. D.

Covington.

In this discussion tonight any ideas that I many chance to bring to you with which you are not already familiar, are advanced with no thought that they are or may be entertaining. Nor do I propose to offer any statistics in support of the views which I express, although statistics, either for or against the position which I take, may exist in abundance.

This not being a scientific discussion, no reason suggests itself to me why I should undertake to fortify what I have to say with any collection of facts. Certainly it would be idle to bring here factual statistics opposing any view which I express this evening. Those sufficiently interested may procure, if they so desire, statistics to support their views, whether such views concur with or oppose those which I voice. I simply propose to express to you, as some one, every now and then, should do on pertinent subjects, an entirely personal view, wholly independent of or, to say the least, arrived at altogether independently of views entertained by any others. In justification of this stand, I merely observe that the ideas of others, whether they agree or disagree with mine, are, after all only ideas. And the fact that there are opposing ideas indicates the possible fallability of either school of thought and, hence, encourages me in assuming that I am not presumptuous in advancing my own personal beliefs.

Changing Nature of and Changing Attitude of Profession Toward the General Practice of Medicine

To a greater degree, perhaps, than we have paused to realize, the character of the general practice of medicine has been gradually, and not altogether slowly, undergoing a change. Fifteen, ten or, perhaps, as late as five years ago, there was, on the part of the medical profession a hostile attitude toward industrial medical practice. Most physicians resented the invasion of the field of private medicine by all forms of industrial or social medicine. The medical profession opposed the assumption of Industrial Compensation or Workmen's Compensation Boards to regulate the practice of medicine, by limiting the free choice of the sick or injured to choose his own physician, as well as the very objectionable practice of regulating the fees which might be charged, especially since these fees were, in most instances, revised downward.

Contact or group practice, introduced, fostered and encouraged by insurance companies and other large industrial concerns, opened the way to and made easier the procurement of State control of the practice of medicine in Workmen's Compensation cases. Yet, the profession still resented the fixing of fees by the State, notwithstanding that these fees, though less, in most instances, than those charged in private practice, were still far more liberal than the fees allowed by insurance companies and industrial concerns to physicians employed by them on a contract basis or to whom all work in given communities was referred on a much lower fee basis.

The resentment with which the profession yielded to the arbitrary scale of fees fixed by compensation laws, while accepting much smaller fees arrived at through private contracts or arrangements between physician and employer, merely demonstrates that trait of human nature which prompts the medical profession now to resist the accomplished fact in various forms, of social medicine.

Many now engaged in general practice find that the fees assured them through compensation laws are preferable, both in size and in certainty, to those realized in private practice. Viewed from this standpoint, that character of medical practice once held in contempt is now found by many in general practice to be more satisfactory than is the case where the patient is wholly free to choose his physician. It may not be unfair to say that the certainty of the fee is not altogether without influence in earning for this phase of social medicine a greater respect.

It is not to be expected that those physicians who, through extraordinary efforts, have equipped themselves for and who, with the aid of good fortune, have arrived at a place in the practice of medicine where they may choose their patients and fix their fees substantially in accordance with the ability of the respective patients to pay, would evidence improved good will toward social medicine. These men, and, from their point of view, perhaps not unjustifiably, are against any governmental attitude toward the practice of medicine which may make it less desirable or less profitable to them to continue in the wholly unrestrained and unrestricted manner in which the medical profession carried on its activities some decades ago. To these fortunate physicians, and their equally fortunate patients, complete liberty of action presents the ideal arrangement.

Unfortunately, physicians of eminence and patients of affluence do not constitute, respectively, the great body of the medical profession and of those needing its ministrations. There are many, many more people of modest or no means in need of medical attention and a far greater number of physicians who must administer to them than are to be found in the two groups to whom I have just referred.

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*Delivered before the Kentucky State Medical Association, Paducah, October 5, 6, 7, 8, 1936.

In view of this contrast between classes of patients as well as of physicians, there seems to me to be less and less reason to criticise that social trend which seeks to secure for the great masses of people in the lower economic brackets a reasonable measure of the higher skill found in physicians who have as their patients the more fortunate and wealthy members of society. Especially should the resistance to this social trend in medicine yield, in view of the correspondingly greater economic security assured to the general or average practitioner. In short, a social attitude toward the practice of medicine which helps both the greater number of people and the greater number of physicians is not to be hastily or inconsiderately condemned.

Improved General Health

It may not be idle to observe here that there is a growing improvement in the public health. Not all of this is wholly attributable to the individual efforts of individualists in the practice of medicine. Associations of doctors in medical centers and other similar medical social practices have made possible operations which would not otherwise have been feasible. It may be said, without in any measure detracting from the achievements of the medical profession, that the improved public health can, in large measure, be traced to the sanitary engineer, to say nothing of the various shades of scientists in between these two professions, who are engaged in health research.

Every advance toward betterment in public health bespeaks the inevitable approach of social medicine, as surely as a continued increase in population and the more enlightened distribution of wealth betoken a more socialized viewpoint.

For the medical profession to resent and to oppose the so-called encroachment of the State upon its domain is, in my judgment, not only inconsistent but indefensible. Logically, opposition to the socialization of medicine can only mean that society should maintain a hands off attitude while members of the medical profession as individuals continue to treat individual cases of illness or disease which are allowed to materialize as a result of this attitude. For the medical profession to confine its activities to the mere treatment of disease, instead of adopting a policy directed to its prevention and eradication, is altogether like treating a symptom instead of finding and removing the cause of illness in a specific case.

Some Social Problems in the Practice of Medicine

As time goes on, the urgent necessity for preventing transmissible disease becomes more and more apparent. Years and years ago, lawmakers, selected almost entirely from the laity, deemed it advisable to prohibit by law the marriage of idiots. If the laity could perceive this danger to society and had the courage to propose a remedy, the question may well be asked why the medical profession has not had the interest or the courage to call upon the legislature to deal with other problems pertaining to the public health, which are just as obvious and just as capable of direct social remedy as is this.

It is perhaps neither logical or possible here to suggest the various recommendations which the medical profession might and, as a body, should make to the legislature to free society of many of the burdens which it now suffers, if it does not invite.

When the crowded conditions of our penal and charitable institutions are considered, it would seem to the ordinary observer that, if we are not to become a race of idiots or degenerates, we must make some effort to better human kind. So far as I am advised, the medical profession has not devoted to the subject of selecting parent stock even a small part of the great attention which it deserves.

There may be many reasons for this peculiar attitude. Working in groups where all may share the honors as well as the burdens of improving public health, does not admit of the spectacular. Neither does it, as in those unusual situations to which reference was made at the outset, aid in the realization of large fees. Again, in a communal attempt to improve the public health, particularly through the correction or avoidance of congenital diseases, the profession is met and too easily conquered by conventional taboos. It has to confront the smugness of society, suffered and sometimes shared by the profession itself. It is not nice, for example, to discuss the causes and origins of social diseases. It is vulgar to admit the existence of biological problems and urges that make social diseases so prevalent among the young. Frank discussion, even in the medical profession itself, of the prevention and spread of congenital diseases is often hindered by conscientious convictions. Our attitude toward many of these problems is aptly expressed by Shakespeare, who said that "like the owner of a foul disease, to keep it from divulging, lets it feed on the very pith of life."

Other Evidences of Social Medicine

The spread of social medicine is evidenced by things other than the actual instances in which it is practiced. It may be observed that as medical colleges improve in the character of instruction given, as well as in the standing of their graduates, full-time professorships are more and more to be found. This innovation was resisted by that group of practitioners who were part-time professors. For the same reason that specializing enhances one's effectiveness, full-time professorships, without concern for business or the collection of fees, enhance the effectiveness of the teachers. That this has not escaped the attention of those concerned is evidenced by the fact that we find an increasing number of schools adopting, because of legislation, State or municipal, as well as because of lay movements or actions of boards of trustees, the practice of creating full time professorships. This signifies, to me at least, that an enlightened public is coming to demand a greater hand in directing medical legislation.

I offer the unsought advice that if the medical profession, in the exercise of its good judgment, is to be as careful of its future as it should be, it will not leave to the laity the important matter of regulating its practice. It will, instead, help to shape the socialized medicine which it cannot escape.

Suggested Units of Social Medicine

I would be reluctant to urge before a medical body the adoption of a practice which would lead to social medicine, if the advent of social medicine were not already assured.

Assuming, perhaps against the facts, though I think not, that we are not to escape (if that is the word) social medicine, I suggest a place where and a method by which it seems to me entirely feasible, as well as advisable, to practice it—at least to test and probably determine its efficacy.

If we wish to admit, as I think we should, that medicine is not a business, but a science, and that the discovery of medical truth and the welfare of the subjects of medical ministration are of greater concern than the income to be derived from medical practice, we may consider, with profit, the school as a medical center.

Through the system of consolidation, schools are rapidly becoming centers where all the children from a large section of country are assembled and can be seen and observed in the least space of time. This makes both possible and necessary, even now, a modified form of social medicine. By proper attention in and to these centers, important leads to causal conditions in homes may be easily discovered and rectified.

As these schools increase in size of buildings and in number of pupils, the feasibility of equipping them as medical centers becomes more apparent. To me they seem to be ideal units where disease may be treated when and as discovered and where much can be done to prevent its development and spread in the community. Objections to this idea will be advanced by those opposing social medicine, on the ground that it interferes with private practice, constitutes an innovation, and is contrary to the profession's traditional policy. The consequences to the profession will be what the profession makes them. But one thing seems imminent—greater professional ability. Advantages to the child and to the parent, while relative and akin to the benefits to the profession, would seem to be great and might be far greater than one can now foresee.

It is my belief that much of the good of social medicine may be achieved without the evils usually to be found in politics, if the medical profession will seriously set about accomplishing such results.

Heads of health departments and medical societies should not be required to lobby with legislatures in order to obtain those things essential to better public health.

Any legislator should be able to vote intelligently upon measures affecting public health. However, it may well be asked how a mere layman may be expected to know a good health measure, if the medical profession is unable to recognize it, or why the profession, if it does know and does recognize the necessity for a health measure, makes no effort to secure its enactment. It is beneath the dignity of the medical profession to have to trade with mercenary politicians in the halls of our legislatures in order to obtain the enactment of laws for the benefit of public health. But, until an aroused public conscience, including that of the medical profession, seeks the enactment of laws beneficial to the great mass of citizens, regardless of their ability to pay, we shall have to get along as best we can with partial, though increasing, and altogether unsatisfactory social medicine, together with an equally unsatisfactory situation in the field of private medicine.

We are now, in ever increasing measure, accepting social medicine. The tide cannot be held back. The widespread discussion of the topic in journals, books and papers evidences the existence of a problem that can be solved only by yielding to the inevitable —social medicine.

What I have said here is not an expression of wishful thinking. Such practice as I have had has been entirely private.

THE HOME TREATMENT OF PULMONARY TUBERCULOSIS*

C. C. Turner, M. D.

Glasgow.

In this essay the following points are emphasized:

(1) The importance of isolating the patient, (2) There should be no difference in the methods of treatment of tuberculosis whether in the hospital or in the home, (3) The fundamentals of treatment in any case anywhere are, complete bed rest, fresh air, forced feeding of a well balanced diet, (4) Sanatoria and specialists are to the treatment of tuberculosis what the agriculture experiment station with its personnel are to agriculture. (5) If tuberculosis is ever conquered it will be done by the general practitioner. (6) Artificial pneumothorax often shortens the period of bed rest by many months and is such a simple procedure that any general practitioner can perform it. (7) This is not the voice of a specialist to specialists, rather it is a word of a general practitioner to general practitioners. (8) Cases are reported and pictures shown.

After a diagnosis of pulmonary tuberculosis is made the family as well as the patient should be so advised. They are to be taken into the doctor's confidence and the location and extent of the lesion, the kind of treatment together with the reasons for it explained. The probable length of time required for its healing, the danger of infecting himself as well as others, therefore the need for isolation made known. The approximate cost and various other details should be explained thoroughly for in no other way can confidence in the doctor better be inspired and cooperation obtained. No whispered lullabies, no chimney corner conversations, no back yard gossip, no telling the patient and family one thing and the neighbors another should be engaged in, all such beget confusion and lack of confidence. In no other disease is honest, frank dealing more necessary or full cooperation more to be desired.

Having thus secured their cooperation and made known his designs a well ventilated room of the home or a screened in porch is selected for the patient and virtually converted into a sanatarium. If neither of these is available a hut is built, after the plans provided by the State Board of Health. Active treatment is then begun and carried on just as it is in hospitals or sanatoria.

The fundamentals of treatment are the same in either case. These are bed rest, fresh air, forced feeding of a well balanced diet. They can be carried out quite as well at home as in a sanatarium. It is not the purpose of the writer to cast aspersions on tuberculosis sanatoria or specialists, as trail blazers they are indispensable but it is not possible for all patients suffering of this disease to be hospitalized. There are not sufficient beds in the first place and in the second place many patients are barred because of economic reasons. Excepting Jefferson and Fayette Counties, our tuberculosis sanatoria and specialists are to the treatment of pulmonary tuberculosis what the agriculture experiment station with its personnel is to agriculture. Just imagine no farming being done in Kentucky except by the experiment station. Then reasoning by analogy the need for the home treatment of tuberculosis becomes apparent.

It has been stated above that bed rest is necessary in all cases for a variable length of time, yet bed rest is not sufficient in all cases to combat the toxemia. It has been found that in a large number of selected cases compression of the affected lung with artificial pneumothorax shortens the period of bed rest by many months. In some cases it is remarkable how quickly the symptoms disappear after this procedure. The virtue of compression lies not only in immobilizing the affected parts but in case of cavity formation it closes it and squeezes out the pus and tubercle bacilli, rendering the patient's sputum bacilli free, thus removing him as a menace to himself and to his attendants.

Tuberculosis in any form is slow to heal. Nobody expects a tubercular hip to heal as soon as it is properly splintered and the pain ceases. It takes months or even years for that, yet the lung heals no more rapidly than does the hip. After compression the cessation of symptoms and a consequent feeling of well being often causes the patient to think his lesion healed and to stop treatment, but it is not long until he is disillusioned, once the lung expands it is only a matter of a short times until the symptoms reappear. If compression does not shorten the healing time of the lesion, then wherein lies its value?

The answer to that is splinting the lung prevents the absorption of the toxins with consequent toxemia, thus allowing the patient to resume his work in a shorter time than does simple bed rest treatment. This is a very important item. There are relatively few people in Kentucky who can afford long periods of hospital treatment or even many months of bed rest at home. To be sure, there is a period of bed rest required with this form of treatment but it is relatively short. Just how long is a question that must be decided in each case. But as a general rule it may be stated that the patient may begin to be up shortly after the temperature and pulse reach normal provided exercise does not cause an increase in them.

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*Read before the Kentucky State Medical Association, Paducah, October 5, 6, 7, 8, 1936.

The question often asked is, "Is artificial pneumothorax a difficult procedure and can any one but a surgeon perform it?" The answer to the first part of the question is no, it is not difficult; to the second part yes, and any good doctor can and should perform it. It is not even necessary to be a specialist. And if this disease is ever conquered at all it will be done by the general practitioner. It is not free from danger and any one using it should be aware of that fact and exercise every precaution to prevent a tragedy. The greatest source of danger is that of air embolism due to puncturing the blood vessel instead of getting the needle between the two layers of pleura. That doesn't occur often but it does happen and while it does not always end in disaster yet it should be avoided. This can be done by watching the manometer. If the fluid in it oscillates before the introduction of air is begun there is no danger. Sometimes the lack of oscillation is due to a plug in the needle or to moisture in the air line but in any case it should be investigated and the cause removed. A second possible accident is that of pleuritic shock, a condition not thoroughly understood in which the patient goes into collapse just as the needle enters the pleura. I had one such accident. The needle was withdrawn, the patient returned to bed. After twenty four hours the process was carried out with no trouble at all. The probability of such accidents should not deter any one's using it. I know of no worth while procedure that is not capable of untoward results; besides, the end attained warrants its use despite the small element of danger.

INDICATIONS: Just as soon as the diagnosis is established pneumothorax should be begun. There is no point in waiting to see how the patient gets along with bed rest. In many cases bed rest does not suffice and much valuable time is lost. There is no need arguing for early diagnosis. Every physician knows that the longer the disease goes untreated the greater the damage done and the longer the time required for arrest and the smaller percentage of favorable results obtained.

There is a large per cent of cases in which it cannot be used, perhaps fifty per cent taking them as they come, for the reason that one of the first reactions to tuberculosis disease is a wide spread inflammation of the pleura and as a consequence adhesions form between the two layers thus rendering collapse impossible.

Complications are few. One of the most common is that of effusion. This is frequently met with and is often very troublesome. The cause may be the introduction of bacteria with the needle, rapid collapse or the application of too much positive pressure, all of which should be avoided. The instillation of too much air at one time may dislocate the heart and mediastinum causing the patient much discomfort, but that is not serious since the air can readily be withdrawn. By taking a look with the fluoroscope before and after treatment this accident can be avoided. The most disastrous complication that has happened in my work is that of tubercular empyema. I have had two cases each of whom now sleeps with his fathers.

This essay is not expected to reach the high ideals specialists set for themselves. Its purpose is to stimulate greater interest in this disease among the general practitioners of Kentucky.

CASE REPORT No. 1: A high school girl, age 15 years had a frank hemorrhage from the lung while in school November 1st, 1933. She came to the office November 15th, 1933. X-ray examination showed multiple cavities in the left upper. There was apparently no spread in the other lung. There was a rapid pulse, elevation of temperature, night sweats, loss of weight, loss of appetite, the usual train of toxemic symptoms. Complete bed rest in a screened in porch away from the family was directed and a well balanced diet prescribed. Artificial pneumothorax was begun at once and within ten days a selective collapse was established. She returned to the office at regular intervals for refills, at all other times strict bed rest was enforced. Within one month the toxic symptoms had subsided except for a slight elevation of temperature in the afternoons. There was no further hemorrhage or cough. She gained thirty pounds in weight the first six months and in the meantime the afternoon fever left and at the beginning of September 1934 she was allowed to go to school mornings with complete bed rest for two hours in the afternoon. August 1936 finds her active and happy and free from symptoms. She comes to the office once every thirty days for a refill.

CASE REPORT No. 2: H. V., male, age thirty six years had profuse and repeated hemorrhages for twenty four hours. X-ray examination showed cavity the size of a silver half dollar in the upper right from which it was assumed the blood was coming. Artificial pneumothorax was begun at once, 500 c.c.'s of air was given which failed to control the bleeding. Twelve hours later 500 c.c.'s more and twenty four hours later another 500 c.c.'s making a total of fifteen hundred c.c.'s of air in thirty six hours. This collapsed the lung into a sausage shaped mass and controlled the hemorrhage. The mediastinum was dislocated to the left and the patient was very uncomfortable which was ameliorated in part by morphine. This man was kept in bed for six months except for the time he came to the office for refills, after which he was allowed graduated exercise. Now fifteen months later he has no symptoms, eats and sleeps well, is up all the time except ten hours at night and two hours after the noon meal. The lung is still collapsed and he gets refills once every four weeks.

Case Report No. 3: H. B. white male age 40, farmer. After an illness of one year in which he had been told he had flu then heart disease, came to office March 2, 1936. X-ray examination showed a large cavity in the right. He also had positive sputum. A gradual compression was begun by giving 250 c.c's of air repeated every second day until the cavity was fairly well closed. Satisfactory compression was impossible because of adhesions, consequently a phrenico-exairesis was done which permitted satisfactory closure. The patient remained in bed until all symptoms of toxemia had subsided which required about four months. At the end of which time he began regulated exercise. At the time this is written six months after treatment was begun he has regained his normal weight, a gain of twenty pounds, feels well and is beginning light work with ten hours rest at night and two hours in the afternoons.

Case Report No. 4: E. M. male white age 30, truck driver. Came to the office Nov. 21, 1935 because of malaise and loss of appetite and weight. X-ray examination showed cavity 4 cm.'s in diameter in right upper. He gave a history of one sister now being treated for tuberculosis and one brother who died of that disease a few years ago. Artificial pneumothorax was begun and the patient advised to go to bed until the acute symptoms subsided. This order was never fully carried out. A selective collapse was secured and at the end of four months he was doing light work. All symptoms having subsided. At the end of eight months the patient has regained his weight and all symptoms of toxemia have disappeared. He gets a refill every two weeks.

DISCUSSION

L. E. Smith, Louisville: One of the important difficulties that confronts us in discussing and treating tuberculosis is a lack of realization of the significance of tuberculosis.

A little leaflet which will be supplied to any physician upon request, represents the situation in Kentucky last year from the reports turned in to the State Department of Health, and in spite of all that has been done, in spite of all that has been said, tuberculosis is still public enemy No. 1. When you consider that 86,400 Kentuckians have been destroyed by a preventable disease in twenty-five years, it is some food for thought, and I can appreciate why Dr. Turner is trying to bring it home to the practitioner. When they recognize the significance of tuberculosis it is not so hard to get practitioners to take adavantage of their opportunity. We all agree with Dr. Turner, I believe, when he says that this disease when it is controlled will be controlled by the practitioners because they alone are on the firing line. We have all had so many opportunities to observe just what he is talking about. We know how hopeless they are when they come in when they were not diagnosed early or not recognized in the incipient beginning stages.

Twenty-four hundred years ago a great Greek physician said, "If I should be afflicted with that consuming disease I would pitch my tent on the mountainside and get me a goat and rest." Twenty-four hundred years ago he spoke, and still that is all we know about tuberculosis today: isolation, good food, and rest. The rest and food are important to the patient but the isolation is important to the patient's friends and to the community, and it is that for a moment that I want to emphasize, the phase dealing with the public responsibility for isolation, prevention and protection.

It is easy to get our sympathies aroused when we see someone afflicted seriously with tuberculosis, but it is difficult to get people to appreciate the fact that that same patient is going to leave a great trail of patients coming on in his path a generation, or a half generation following, and it is from that angle that I want to emphasize isolation, ISOLATION. It is so important that we cannot emphasize it too much. I think you will all agree that isolation from the public viewpoint is one important factor that we have overlooked.

I succeeded in getting a number of leaflets of a lecture published by a great man down in Georgia (I just heard him last week discussing this same problem), Dr. Schenck, the director of the tuberculosis control program in the State of Georgia. He has written this on lung collapse measures from the public health and preventive standpoint. If you fail to get one of these, just write me and I will be glad to get them to you. When you have read it you cannot but be struck with the soundness of the man's argument.

I want to read you his conclusions, which are brief:

"Tuberculosis, through closure of all sources of infection, is preventable. In other words, you can isolate a patient and leave him right where he is by making an open case a closed case.

"Lung compression as a method of checking the spread of tuberculosis infection cannot be too highly valued and should be more easily available and more widely used.

"A satisfactory and efficient tuberculosis control service including adequate facilities for the employment of lung collapse in the rural districts and small towns is entirely possible and should be organized and put into early effect."

I think we will all agree to that and we will all say God speed the day when it shall come.

Here is another leaflet which is very practical, too, from the New Hampshire Medical Society, on the responsibility of the general practitioner of medicine for the cure and prevention of tuberculosis. I hear physicians so often say, "We have worked and worked with these hopeless, helpless cases of tuberculosis until we are pauperized ourselves and seem to have accomplished nothing." We all think in terms of compensation, and to give you a vision of this great writer's and thinker's feeling of responsibility that the profession has I want to read you what he says about compensation:

"The responsibilities of the physicians are many, but not without compensation. To have saved life, to have prevented disease, to have eased human sufferings, to have made the community in which he lives a better place because of his presence and service there, all these bring to the physician a lasting satisfaction. To have been true to the ideals of his profession and to know that he has met in full his obligation for active participation in the cure and preventing of tuberculosis brings to the physician a reward beyond money and beyond price."

May God speed the day when the practicing physician will recognize all these facts and when we will do our best, not only for the patient's sake but in order to protect those about him, because we have that responsibility too.

W. T. Little, Calvert City: There is not a single subject that will be discussed before this annual meeting of the Kentucky State Medical Association that directly and indirectly affects so many people as this one. Dr. Turner has very truthfully told you that the ideal way of treating it, of course, is in the sanatoria, but the lack of beds and the lack of financial ability on the part of the patients has confined the treatment of tuberculosis almost exclusively to the home.

Frankness should certainly be emphasized. One of the greatest tragedies is to have these tubercular patients come to you after their family physician has told them that their hemorrhage was from their bronchial tubes or that their continued cough and early afternoon fever was a little touch of the flu and would soon clear up. You will get better cooperation from the family and from the patients if you will tell them the exact condition they have, except in the very last stages—of course you wouldn't want to tell your patient he was hopelessly ill and would live only a short time.

The most outstanding phase in the treatment of tuberculosis with the exception of the preventive side of it is the collapse therapy. I have been fortunate in the last six years in attending four of the six annual meetings of the National Tuberculosis Association and have listened to men who have the directorship of large sanatoria and of large and varied experience in this line of treatment, and there is no disagreement whatever that it is one of the outstanding methods of treating tuberculosis and should be, as a rule, begun in the early cases. Of course you have to have bed rest in conjunction with your collapse therapy, but it cuts short the length of time that the patient is confined to bed.

Not only is collapse therapy curative, but you can take the far advanced cases and make them safer to those who are in the home with them. You can usually get in 100 or 200 or 300 cc. of air, and though you have many adhesions you can often get enough pressure on these cavities to make the sputum negative and free of tubercle bacilli, which greatly lessens the menace to those who live in the same home or are associated with them.

Another phase to collapse therapy is the benefit in controlling the hemorrhage.

MORE TRUTH THAN POETRY

Mary had a little cold, but wouldn't stay at home,
And everwhere that Mary went, the cold was sure to roam;
It wandered into Molly's eyes and filled them full of tears.
It jumped from there to Bobby's nose, and thence to Jimmie's ears.
It painted Anna's throat bright red and swelled poor Jennie's head.
Dora had a fever, and a cough put Jack to bed.
The moral of this little tale is very quickly said
She could have saved a lot of pain with just one day in bed.

—L. Thibault, New York State Health News.

ROCKY MOUNTAIN SPOTTED FEVER IN KENTUCKY*

Marion F. Beard, M. D.
Louisville.

I want to present a report of two cases of Rocky Mountain Spotted Fever. The first case is reported with permission of the late Dr. Weatherby, of Middletown. The second occurred on the Medical service of the Louisville City Hospital.

Rocky Mountain Spotted Fever is known to have occurred among the white people of Montana and Idaho as early as 1885, Wilson and Chowning early reached the conclusion that the wood tick Dermacentor Andersoni was the vector. In 1906, Ricketts began his studies. He and King, independently, were able to transmit the disease to guinea pigs. In 1935, one case was reported from Indiana and one from New York. Since that time numerous cases have been reported from widely scattered regions in the East. In most of the outbreaks in the East the possible source of the infected ticks was not found. In a recent outbreak in Tennessee however the only possible source of infected ticks was from some hunting dogs imported from an endemic area in Montana shortly before the outbreak occurred.

Rocky Mountain Spotted Fever is characterized by an incubation period of two to eight days; a fever which is usually quite high, with morning remissions of from 1 to 3 degrees, the fever lasting from 12 days to 4 weeks and ending by lysis. Intense headache is a frequent symptom and joint pains are common. The rash which is indistinguishable from that of European Typhus Fever, is characterized by appearance on the third to the fifth day of the fever, first on the forehead and back, then on the arms, chest and lower extremities. It is at first rose colored, macular, 1-5 mm in diameter, not elevated, not palpable, and disappears on pressure. After a few days the spots begin to persist on pressure and shortly the rash becomes petechial. Cutaneous and subcutaneous hemorrhages of considerable size may occur. After the petechial stage the rash becomes brownish in color and begins to disappear with the subsidence of the fever. It may persist for some time however as pigmented spots.

The following two cases of this condition are reported. Case 1. M. S., a white female, aged 5 years. She became ill on May 24, 1934, with a high temperature and complaining of fatigue. Two days later the fever had continued and the child complained of being sore all over. The muscles and joints at this time were extremely tender. The rash appeared at this time, first noticed as faint rose colored spots on the front of the neck at the clavicle and on the abdomen near the umbilicus. The spots then appeared on the face and buttocks and soon covered the entire body rather uniformly. At no time were these spots elevated, still later the rash became confluent and was described as "purplish blood shot spots." Twelve days before the onset, the mother stated that she pulled a tick off of the child's ear. Ticks from a pet dog which the mother stated were the same as that removed from the child's ear were later identified as Dermacentor. The mother stated that the point on the child's ear from which the tick was removed later became red, swollen and encrusted.

The temperature on the second day was 104 degrees axillary and it reached that height for several days, remaining high for 14 days, subsiding by lysis and becoming normal on the 20th day. The rash began fading on the 10th day but was still prominent on the 23rd day. The child was obstinately constipated throughout the illness.

Laboratory: The urine was negative except for a three plus albumen during the febrile stage. The Widal was negative for typhoid, Para A and B. Agglutination for Undulant fever and Tularemia was negative. The Weil Felix reaction showed a positive agglutination for B. Proteus x 19 in a dilution up to and including 1:2560. There was a positive agglutination for B. Proteus x 2 in a dilution of 1:640 on the 14th day.

Case 2. A. M. white male, aged 14, admitted to the Medical service Louisville City Hospital, August 1, 1934. He had a chief complaint of headache, drowsiness, malaise, fever, and vomiting. The onset was 6 days before admission with a slight headache and general malaise. The patient felt feverish and had some chilly sensations. Five days later he began to have nausea and vomiting with some cramp like pains in the abdomen. At this time there also appeared a rash which was first noticed on the abdomen but rapidly spread over the entire body.

The patient had been at a fresh air camp at Pewee Valley, for two weeks shortly before onset of his illness and while there, 8 to 11 days before the onset, he had pulled a wood tick off his forearm. He had noticed no reaction at the site on his arm and had forgotten the incident until questioned.

Examination revealed little except for a temperature of 103 degrees, pulse, 115, an enlarged tender spleen, and a rose colored rash, which was not elevated, disappeared on pressure, and was most marked over the thorax and abdomen. It was also present on both upper and lower extremities. There was no rash on the face. His temperature remained elevated, near 103 with afternoon remissions for 7 days when it began to subside by lysis, reaching normal on the 13th day. The pulse remained fast, slowing as the temperature fell. On the 7th day the rash was petechial and did not disappear on pressure. On the 10th day it began to disappear except for a brownish pigmentation at the site of the spots. This pigmentation gradually faded but was still visible on discharge of the patient on the 15th day.

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*Read before the Kentucky State Medical Meeting at Paducah, Oct. 5, 6, 7, 8, 1936.

Laboratory: Repeated white counts were within normal limits. The red blood count was normal. The urine showed a trace of albumen. X-ray of the chest was negative. Blood cultures showed no growth. Stool cultures were negative for the typhoid, dysentery group. Two Widals were negative for typhoid, Para A and B. On the 10th hospital day, agglutination with B. Proteus x 19 was positive in a dilution up to 1:2560. This was repeated on the 15th day with identical results. The Wassermann was negative.

These two cases present a fairly typical picture of Rocky Mountain Spotted Fever as it is seen in the East. While the differential diagnosis between Rocky Mountain Spotted Fever and Endemic Typhus fever cannot be definitely made without Virus Neutralization tests it is felt that with the rash and the history of tick bite in both cases, and the positive Weil-Felix reaction, the diagnosis of Rocky Mountain Spotted Fever is justified.

Both of the cases were relatively mild. The second case in particular was quite mild and the boy was quite comfortable after the first week of his illness. This seems to be characteristic of the disease in the East.

The rash in both cases was somewhat atypical in distribution but quite typical in appearance and reaction. The brownish pigmentation of the second case was quite striking, giving the "turkey egg" appearance to the skin.

It is interesting to note that both cases came from the same general region of Jefferson county. No connection was traceable to animals from endemic regions of the West but both cases occurred during the period that drought cattle were being brought in from the West and it is possible that infected ticks were transferred in the stock yards. In the first case, 5 cows from Kentucky and Indiana had been brought in the Louisville Stock Yards, some weeks before the onset.

SUMMARY

Two cases of Rocky Mountain Spotted Fever are presented. The impossibilty of absolute differentiation from Endemic Typhus without Virus Neutralization tests is pointed out. No source of infection in these cases could be proved.

ADVANCES IN THE TREATMENT OF VARICOSE VEINS AND LEG ULCERS*

PAT R. IMES, M. D.

Louisville.

The present-day treatment of varicose veins and their complications is a result of contributions by numerous workers in this field of the past decade. It was at about the beginning of that period that the injection method of treating varicose veins began to be widely used. Its increasing popularity since attests to its efficacy. Sufficient time has elapsed to afford a review of the results from such treatments and the introduction of additional measures to improve the results when they have proven unsatisfactory.

Since the ill effects of varicose veins is due almost wholly to a disturbed mechanism of blood flow and their correction depends on the application of simple mechanics it might be well to briefly review the anatomy, physiology and pathology of the veins of the lower extremities.

We are chiefly concerned with the great saphenous vein and its tributaries. This vein has its beginning on the internal aspect of the foot from the dorsal arch, then ascends up the internal aspect of the leg and thigh to terminate in the femoral vein after piercing the deep fascia through the fossa ovalis. It is superficial as related to the deep fascia and consequently without support of surrounding structures except for the sub-cutaneous fat throughout its course.

Like other veins of the extremities it contains a series of valves which normally serve to support a long column of blood when in the standing position. When these valves become incompetent, as usually happens in varicose veins, the flow of blood is in the reverse direction from that seen in normal veins. The blood then must flow to the deep veins through communicating channels. These communicating veins usually possess competent valves and there is no flow from the deep to the superficial veins, however, an occasional instance of incompetency is seen which does permit back flow and incidently increases the difficulty of obtaining good results from treatment. The valves of the deep veins are practically always competent which with their surrounding supporting structures precludes their becoming varicose.

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*Jefferson County Medical Society, November 16, 1936.

A number of tests have been described to determine the competency of the valves. The most useful is known as the Trendelenburg test. A positive Trendelenburg test indicates incompetency of the valves of the great saphenous vein. A negative Trendelenburg test indicates competency of those valves. A doubly-positive is indicative of incompetent valves of the communicating veins. A Trendelenburg nil indicates competency of all the valves.

A useful test to determine the patency of the deep veins is to have the patient wear a bandage or tourniquet applied sufficiently tight to occlude the superficial veins. If the deep veins are patent the extremity becomes more comfortable, and the superficial veins less prominent, however, if occluded there will be considerable discomfort, edema, and cyanosis of the foot.

All patients with patent deep veins and without a history of recent phlebitis that are ambulatory have been chosen as suitable for treatment. This includes patients with coexisting diseases such as cardio-renal disorders, diabetes, and hyperthyroidism. Pregnancy is not considered a contra-indication for treatment. Edwards, of the Boston City Hospital, reported a series of 1000 cases, 375 of which had some serious co-existing disease, and in which there was no fatality and no serious untoward results.

The plan of treatment of varicose veins which we have adopted in the Surgical Dispensary has been that we have found most efficacious in treating approximately 700 patients during the past six years. It is also the plan that is being used quite generally in comparable clinics elsewhere.

This plan depends on arranging the patients according to the severity of the varicosities and their complications into the following classification: First Group: Varicose Veins of slight to moderate degree without complications are treated by the injection method only. We employ a 5 per cent sodium morrhuate solution, (Searle), which has been found by Ochsner and Mahorner to be the most effective thrombus-producing agent after comparison with a number of other solutions. Second Group: Varicose veins of moderate to severe degree with or without complications, provided the great saphenous is the vein involved, are treated by a preliminary ligation at or just below the saphenofemoral junction. We have now done approximately 100 ligations on ambulatory patients without serious untoward effects. High ligation has long been advocated by de Takats, Homans, and others, and affords a much better prognosis against recurrence of the varicosities, which has been reported to be as high as 98 per cent after the injection treatment alone. The frequent recurrences are explained on the basis of recanalization from the pressure by force of gravity of the long column of blood. Following ligation of the saphenous vein and the injection of 2 c.c. of 5 per cent Sodium Morrhuate into the distal portion of the vein, one not infrequently obtains a thrombosis of the entire vein. Usually, however, a few subsequent injections are required to completely occlude the remaining patent veins. Third Group: Varicose veins with chronic leg ulcer. Since the ulcer is directly dependent on the presence of the veins and the resulting impaired circulation it is plainly evident that there can be no permanent improvement until the varicosities are eradicated. This is done concomitant with the treatment of the ulcer and is done by the plan previously outlined. Thus, injections alone, if the veins are slight to moderate in degree, or preliminary ligation of the saphenous with subsequent injection, if the veins are more extensive. Unfortunately, this plan of attack with the customary gauze-ointment dressing for the ulcer will not bring about healing in many of the cases. This is especially true if there is much edema of the extremity.

It is to this group that I wish to call special attention, because frequently one must exhaust every resource to bring about healing.

Dickson Wright in 1930 first advocated the use of elastic adhesive bandages in the treatment of chronic stasis leg ulcers. Since then many clinics have adopted the method until today it affords the most efficacious and least expensive method of bringing about healing in these more obstinate cases. I mention expense, because it is an item of no little importance particularly to an institution of this type and, too, considering the time factor when gauze-ointment dressings are used a sizeable sum may be exhausted over a period of years and then the ulcer remains unhealed. That alone, not to mention the invalidism produced by a large foul chronic leg ulcer, should be justification for the more general adoption of the method.

Douglas, of the Vanderbilt Clinic, has described its use and brought about healing in many ulcers that had previously remained unhealed for a period of years. Such has been our experience following adoption of the method about one year ago. This method has been used on our most resistant ulcers, and in spite of the fact that many of them had been making two or three visits each week over a period of three or four years for gauze dressings, including all of the well known antiseptics, stimulants, etc., they are now healed with few exceptions. Those few exceptions are a definite, however small number in any large series of chronic leg ulcers and are best cared for by hospitalization, cleaning the ulcer with hot wet dressings, or saline soaks, followed by radial excision of the ulcer with subsequent thick skin grafts as advocated by Brown, Byars, and Blair. This will be necessary only in 2-5 per cent of the chronic stasis leg ulcer patients.

Briefly, the technique employed in using the elastic adhesive, (Elastoplast), bandages is that in using an Ace bandage. There are a few essential features however that I might mention:

(1) The bandage is applied without other dressings or applications.

(2) It should be applied evenly and about as snugly as possible.

(3) The original bandage should be changed after the first week, and subsequent ones may be worn for three or even four weeks.

(4) The bandages should be reapplied until the ulcer is well healed, and at least once thereafter.

Conclusion

(1) Varicose Veins of slight to moderate degree may be relieved by injections of sclerosing solutions alone.

(2) A preliminary high ligation of the great saphenous vein is a most important adjunct to the treatment of the more extensive veins.

(3) The usé of elastic adhesive bandages has been most effective in the treatment of the more resistant stasis ulcers.

DISCUSSION

J. Duffy Hancock: I would just like to say a few words of endorsement for elastoplast bandages. When I first heard of them three or four years ago, the treatment did not particularly appeal to me. At that time, I was dressing leg ulcers every day or every second day, and even then I was amazed at the amount of drainage present on the dressing. The use of any treatment which did not permit of a change of dressing for one to two weeks did not seem sanitary. The proof of their value came with their use. Elastoplast bandages will certainly bring about healing of leg ulcers. Dr. Imes did not mention why this improvement in leg ulcers occurs. The most important thing is that the bandage controls the edema of the leg. There is less weeping at the site of the ulcer and if the edema is controlled, the new growing edges of skin are not disturbed. Then, too, it is possible that under this bandage a phage might develop as some believe occurs in the closed treatment of osteomyelitis. We occasionally see leg ulcers that apparently are not due to varicose veins since the edema hides the varicosities. After the elastoplast bandage is used, the edema subsides and discloses the varicose veins which can then be treated by the method Dr. Imes described. His results coincide with the findings I have had and I am glad to recommend this type of treatment.

A. B. Loveman: I am very much interested in Dr. Imes' paper because for some time I have been treating ambulatory patients with varicose ulcers in a similar manner. There is no question but what this method of therapy is superior to the older method. Lately I have also used plain adhesive tape in these cases as well as in other unexplained ulcers. The results here are also most gratifying. I should like to ask Dr. Imes if he has encountered many cases of sensitivity to the elastoplast bandage. Recenty I was forced to discontinue the bandage because a marked dermatitis developed. One should always keep this possibility in mind.

P. R. Imes (In closing): In reply to Dr. Loveman's question I can only say thot I have seen no dermatitis of consequence develop from wearing the bandages, however, there has been occasionally a slight folliculitis which has not interferred with re-application of the bandages. Douglas mentions that for those who are intolerant to the Zinc Oxide that bandages be used that are impregnated with 5 per cent icthyol or 5 per cent aluminum acetate. I might also add that the use of elastic adhesive bandages has been most effective in the treatment of severe varicose eczema.

Reduction of Infantile Scolioses.—Le Cam has previously described a law which he believes is valuable in the correction of infantile scoliosis. This law may be stated as follows: If a shoulder is maintained in an elevated position, it results in the hypertrophy of the corresponding hemithorax and the atrophy of the opposite hemithorax. It thus forces the vertebral column to curve and inevitably produces the formation of a scoliosis, the convexity of which is toward the side of the raised shoulder. A number of cases of infantile scoliosis have been treated by applying this law. When properly performed, there is no necessity to fear that the shoulder which was raised by the aid of an elastic tampon will remain raised after the end of the treatment. All scolioses of nurslings treated immediately are cured rapidly and permanently. Later the reduction of the curve is obtained rapidly if it is of recent origin and not too pronounced. The less exaggerated scolioses remain treatable for a longer time. He recommends this treatment as a relatively simple and effective method of meeting the problem of scoliosis in infants and children.

SPINAL ANESTHESIA*

M. Casper, M. D.

Louisville.

Spinal anesthesia was first advocated in 1885 by Corning, but was not used here until about 1900, when Braun wrote an article showing the value of adrenalin in connection with its use.

Being interne at the Louisville City Hospital then, I called attention of the staff surgeon, Dr. J. G. Sherrill, to the article and technique of spinal anesthesia, and suggested that we use it. We gave it to a patient, and performed successfully a nephrectomy. A few days later Dr. James Bullitt and I used it for a salpingectomy, and I have been using spinal anesthesia more or less ever since.

In those early days it seemed risky, and the unfavorable reports of the literature made us cautious for years. We first used cocaine (20 M. of 2 per cent solution), which powerful anesthetic, along with administration in the sitting position and our ignorance of blood pressure naturally made the technique an agent of danger. Later, there was placed on the market eucaine, which was four times safer than cocaine, but still too close to the line of danger. After procaine and the newer synthetic substitutes for cocaine came into use about 1905, spinal anesthesia has come to be the agent of choice in all operations below the umbilicus, being not only the safest, but also the best anesthetic. Many writers say below the diaphragm, but again the margin of safety is too narrow for surgery of the upper abdomen; so for such cases we always use avertin and ether, or later and better, epidural for upper abdominal conditions.

Epidural, a local, and probably the safest of all anesthetics, is simply novocaine (2 per cent solution), and anesthetizes only sensory fibers. It does not lower blood pressure, or affect any of the vital centers. It is somewhat difficult to administer, requiring extra time, and is not so good a relaxant as spinal, but the safety far outweighs these few minor disadvantages.

Surgeons must be well acquainted with all forms of anesthesia and anesthetic agents, for each has advantages at some time or other, and in particular cases certain anesthetic agents have definite indications. Also, patients have certain wishes that must be respected, and we usually agree to their choice, provided no physical contraindication exists.

All anesthetic agents have definite indications, as well as contraindications. Spinal anesthesia is no exception. The following are its contraindications:

The great physical change produced by spinal is lowering of the blood pressure, patients dying of anemia of vital brain centers. This danger has been largely eliminated by the Trendelenburg posture and preliminary administration of ephedrin. Also, we think that by using solutions of specific gravity lower than spinal fluid, the anesthesia area is controlled and held caudally.

With these improvements even patients with essential hypotension are good spinal anesthetic risks; whereas, formerly low blood pressure was a distinct contraindication.

Another important method of maintaining blood pressure is by intravenous fluids, which can be given preliminary to operation, during operation, and which in most major surgery are valuable otherwise after operation as well, to overcome shock and hasten recovery.

Hypertensive patients now are usually good spinal anesthetic risks; whereas, before, they were hazardous, as such patients do not withstand sudden drops in blood pressure. Of course, all anesthetics are more dangerous in such conditions as these, and again spinal is no exception. This also is true in cases accompanied by or following hemorrhages and in fact all forms of anemia. It is especially true of patients in shock, but in shock not accompanied by hemorrhage or fear, spinal anesthesia is the safest anesthesia.

Any pathology of the spine, the cord or its membrane, is a contraindication for spinal anesthesia, as is also pernicious anemia, because of possible later spinal symptoms that would be ascribed to the spinal puncture.

Infections, bed sores, and so on, in the vicinity of the field of puncture necessarily preclude the use of spinal. Spinal is not the anesthetic of choice in infants and children, though may be used in a certain few of the braver little fellows. Senile patients tolerate spinal very well, but it should be given in decidedly smaller doses not over 100 mg. of procaine, and usually only 75 mg. will suffice. We have used it in several patients over eighty years of age for transurethral resection, strangulated hernia, and in amputations.

Procedure: Preliminary medication is always given. The night before we give phenobarbital gr. III. This is repeated double or triple the amount one or two hours before operation. Morphine gr. 1-6 or 1-4, sometimes with atropine is given per hypodermic one half hour before operation; and the last thing before the patient goes up to the operating room, ephedrin gr. 3-8 is given hypodermically.

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*Read before Nelson County Medical Society on September 15, 1936.

A little chat with the patients about spinal anesthesia is always fortifying to them, and stimulates their courage; and if the doctor has their confidence it is a great asset.

Technique: We use preferably spinocaine in various amounts, not over 3cc. of solution in any case. The patient lies with the side uppermost that is to receive the incision. First, novocaine and adrenalin are used in the skin with a very fine needle, which causes the only pain the patient feels. We use a trocar needle through the skin, and the spinal needle (gage 21) is introduced through this; thus the ever prevalent staphylococcus albus in the skin is not forced into spinal membranes or canal, we have had no infections in these thirty-five years. The spinal space selected varies anywhere between any of the lumbar vertebrae, depending on the operation and height of anesthesia desired. Depth of anesthesia is also increased by barbotage and dilution with spinal fluid, also by degree of Trendelenburg. Immediately after removal of the needle the patient is turned face down for a few minutes, which procedure fixes the anesthetic agent to the sensory nerves, which are thus the more deeply anesthetized. Also the anesthetic effect thereby is hastened a minute or two, and by the time we change our gloves and re-scrub, the patient is ready for operation.

We formerly had to supplement about ten per cent of the cases with a few whiffs of ether, but we have not done this for a long time. Sometimes a whiff of spirits of ammonia, which is not an anesthetic at all, will act quite as well. However, if ether is required, it works well with spinal, and only a small amount is required. It may also be given to prolong the spinal anesthetic. Morphine about gr. 1-8 given during the operation, helps prolong the spinal anesthesia, but should be anticipated and given before the anesthesia has worn off. The duration of anesthesia is about one hour's time, enough for almost any operation by modern surgical methods.

Complications and Sequelae: Many complications and sequelae are enumerated in most papers on spinal anesthesia, but I have never seen any of them, except that the patient may be nauseated and vomit once on the table. This is usually only a little gagging, due to superficial respiration in an apprehensive patient, which causes lack of sufficient oxidation, easily remedied by a little oxygen or voluntarily encouraged deep breathing. Headache is another after-effect often stressed, and formerly did occur when we used larger spinal needles than we do now. Even so, we have never seen a headache that was not relieved by one or two aspirin tablets. Neurosis and psychic conditions can be easily ruled out, but patients sometimes try unjustly to accuse the spinal of being the cause of such disturbances.

Within the hour all symptoms and effects of spinal begin to vanish and the patient is back to normal again, as far as the spinal anesthetic is concerned.

Even nervous persons who have had both ether and spinal report that they prefer spinal, the same being true of physicians when they have operations themselves. We think we have so many obvious advantages in spinal anesthesia that it is here to stay, and fills a valuable place in the armamentarium of the modern surgeon.

SEASONAL VARIATION IN THE INCIDENCE OF PUERPERAL INFECTION*

Robert F. Monroe, M. D.

Louisville.

Fatalities from puerperal infection still rank first in maternal mortality statistics.

This appalling fact has stimulated a great amount of work throughout civilized countries as to the etiological factors involved and as to methods of combatting its effects. The low incidence of puerperal infection and the minimum of deaths due to it as reported by various clinics is evidence that we do know a great deal about the above factors. With the dissemination of this knowledge and with our realization of the significance of the disease and the advantages gained by using the best of this knowledge at hand and applying it we should be able to go far in reducing our own maternal morbidity and mortality rates.

The prevention of puerperal sepsis is far easier than the cure and the clinical course of the disease depends in a great measure upon the virulence and the invasiveness of the causal organism. It is important from a preventive standpoint to differentiate between the exogenous and endogenous methods of infection by organisms. While in the exogenous group of infections we have cases of puerperal sepsis caused by the colon bacillus, pneumococcus and various staphylococci, yet the majority of fatal cases are due to streptococci, and the most virulent of these is the hemolytic streptococcus, which is found not only in other parts of the patients own body but, according to Walker, is was found that fifty per cent of the personnel of his operating room at the Boston City Hospital were carriers. That there are other factors

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*Read before the Jefferson County Medical Society, November 6, 1936.

involved in puerperal sepsis besides antisepsis and asepsis has been pointed out by various ones. Williams has suggested several factors other than breaks in aseptic technique predisposing to puerperal infection. First of which is premature rupture of the membranes. The flora of organisms in the vagina, containing what it may, is allowed to ascend into the cervix and lower uterine segment as in the latter stage of labor, so that by the third day the uterine cavity is heavily invaded and does not become sterile until the tenth or twelfth day, normally. Consequently if the patient does not go into labor within a few hours, as they usually do, induction, preferably by medical means is indicated. Williams' second point was the higher incidence of morbidity following mechanical means of induction of labor i. e. by insertion of a Vorhees bag or by use of the bougie. The third was the reduction of the patient's resistance by toxemia, and we might add improperly balanced diet deficient in vitamin content and minerals. Fourth, placenta previa, because of the low implantation of the placenta leaving the dilated sinuses for easy accessibility of invading organisms, and lowering of the patient's resistance by hemorrhage. Fifth, wounds following an operative delivery and prolonged labor cause a devitalizing effect on the tissues of the birth canal, and trauma to maternal soft parts. Sixth, exposure to another patient with puerperal sepsis may be the source of infection or there may be contact with a member of the patient's family who has an acute upper respiratory infection or she herself may carry germs in her throat and convey them to the genital tract and last but not least in importance is the fact that the attendants may be carriers of disease producing organisms, and even with the most scrupulous technique are most likely to transmit the infection. It has been proved again and again that the source of certain cases of puerperal infection was from an attendant who was an unsuspected carrier.

There is no more striking case of this method of infection than the epidemic of puerperal infection which occurred at the Sloane Hospital in 1927. As reviewed by Williams, "During a period of four weeks early in 1927, in approximately 15 per cent of one hundred and sixty-three patients delivered, severe puerperal infection developed, and of those infected, 36 per cent died. Extensive bacteriologic studies were made, streptococcus hemolyticus was recovered from the lochia of all the infected patients except one. None of the infected patients examined yielded positive nose or throat culture, however, but twenty of one hundred nurses and two of twenty-six doctors were found to carry hemolytic streptococci in their throats."

During the period of two years, from July 1st, 1933 to June 30th, 1935 inclusive there were 3613 obstetrical cases delivered on the service at the Louisville City Hospital. Of this number 314 cases fell in the morbid class. All cases whose temperature rose to 100.4 on two successive days exclusive of the 1st post partum day were classified as morbid cases.

It was noticeable that there was a larger number of morbid cases during the winter months than during other months throughout the year. A study of the above cases verified this observation. A search for references on this subject revealed that there are surprisingly few articles in the literature relating directly to it. There is, however, much discussion as to the seasonal variations of respiratory infections and surgical infections and their relationship.

Williams in 1932 observed that the curve of deaths due to puerperal sepsis follows closely that of respiratory infections except that it is usually about a month later.

He, however, was unable to find a seasonal variation in the incidence of puerperal infection in an analysis of a series of 25,000 deliveries.

Since we are convinced that there is a relationship between the incidence of puerperal infection and that of respiratory infections we should concentrate our efforts in addition to perfecting our technique to the detection of carriers of hemolytic streptococci and if possible their suspension from obstetrical duty until several successive negative throat cultures have been obtained. At least all attendants' throats should be cultured and close watch kept for the appearance of cases that might be infected by the carrier. Bacteriological and serological studies should be carefully made on all services because the more data we have the sooner we will be able to arrive at a satisfactory scheme of lowering the incidence of puerperal morbidity.

It has been found by Schwarz and Brown that anaerobic streptococci are harboured in the vaginas of 40 per cent of women at term. These of course are not introduced but when the resistance of the patient is lowered and a suitable field made for invasion become pathogenic, in varying degrees. This problem it seems constitutes one of our major obstetric problems, since the incidence of puerperal infection from other sources we believe can be reduced to a minimum.

On the service of the above investigators it has been the practice for ten years to use a technique of vaginal instillation similar to that described by Mayes, frequent instilla-

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tions during labor, but employing different antiseptic agents. The results were gratifying and their statistics are among the best. For the past six years the agent used for instillation has been 1 per cent neutral acriflavin in glycerin. During the period from July 1st, 1933 to July 1, 1934 their percentage incidence of morbidity from puerperal infection was 1.46. This method they contend has practically eliminated serious cases of puerperal infection due to anaerobic organisms.

Conclusions

1. There is a definite seasonal variation in the incidence of respiratory infections.

2. There is a seasonal variation in the incidence of maternal morbidity and maternal mortality from puerperal infection, which follow the seasonal variation of the incidence of respiratory infection by about one month.

3. The cause of outbreaks of puerperal infection have been traced to carriers of hemolytic streptococci in their throats.

4. The incidence of morbidity and mortality from exogenous infection can be lowered by, in addition to asepsis and antisepsis, wearing of properly constructed masks, guarding against attendants coming in contact with infected cases and prevention of carriers of disease-producing organisms from remaining on obstetrical services.

5. Endogenous infections can be reduced by reduction of methods that tend to devitalize tissue and exhaust the patient and by frequent instillations in the vagina during labor of an acceptable antiseptic.

DISCUSSION

Dr. H. A. Davidson: I think the doctor has stressed in his paper the point that puerperal infection is due to lack of care in the preparation of the patient and in the precautions taken by the doctors and nurses in attendance on obstetrical cases. If every case of obstetrics was treated just as we treat our abdominal surgical cases I think there would be little puerperal infection. I maintain that the same precautions should be taken in the delivery room as in doing a laparotomy. We do not hesitate to clean up the woman's abdomen, using plenty of alcohol, before we go into the abdomen. Why should we not take similar precautions in the vagina. We know the vagina may be traumatized by the head, and there is then some injury, especially in primiparae, there are some open spaces ready to absorb the germs, both aerobic and anaerobic, which are present in the vagina. The anaerobic streptococcus is frequently found, in combination with the colon bacillus. For many years I have been using antiseptics. Many use mercurochrome. With all the surgical precautions we had lower mortality. Years ago, when I was on the staff of the old City Hospital, most of the puerperal infection cases were brought into the hospital, the result of obstetric deliveries outside and brought into the hospital to be treated. I think a woman is safer in a hospital than in a home. You cannot procure surgical cleanliness in the home as in the hospital. Statistics prove it. John Hopkins Hospital investigated it and found that women were two-to-one safer delivered in a hospital than in the home. Better precautions are taken in the hospital than in the home.

As for seasonal variations of puerperal infection, we would expect that, because we know that many of the germs that cause the infection are more prevalent in the winter season, such as flu, and upper respiratory infections. With nurses sneezing, doctors sneezing, and often the friends and relatives of the patient sneezing, you can easily understand the great danger from upper respiratory infections. Dr. Monroe has stressed the use of eight layers of gauze in masks. Every attendant should wear such a mask. Greatest precautions should be taken to guard against this infection.

E. R. Palmer: Dr. Monroe has given us a very interesting talk in which he has particularly stressed the relation of puerperal septicemia with respiratory infections. This, I think he has shown to be a demonstrative fact. Now Dr. Davidson says obstetrical cases should be given the same care as surgical cases. I think they should be given even greater care in that the puerperal state seems to cause a peculiar susceptibility to the hemolytic streptococcus. Dr. Davidson advocates application of chemical antiseptics to the vagina. I disagree with him for I believe the less interference with nature's own antiseptic fluid the better. Dr. Monroe spoke of the advisability of covering the noses and mouths with gauze masks of all in the delivery room and of course we agree with this. There is one thing that has not been mentioned, that is prophylactic immunization with respiratory vaccines. We use them on ourselves and our patients to prevent contracting colds, why not use them on the attending doctors, nurses, and even the patient to prevent infection with the hemolytic streptococcus?

Alice Pickett: Dr. Monroe should be congratulated on putting so much valuable material into so short a paper. As he was talking I was thinking of the splendid attitude taken by the obstetrical staff of Sloane's Maternity Hospital during the distressing epidemic that broke out there. They frankly and promptly acknowledged to the world the presence of an epidemic of puerperal infection in the Sloane's Maternity Hospital. They closed the hospital and all hands fell to work to find out the cause. The source of the epidemic proved to be a streptococcic throat of one of the delivery room attendants. They published their findings and outlined the course they would take to prevent a similar disaster. They required everybody present in their pain rooms and delivery rooms to wear masks covering not only the mouth, but the nostrils.

In several of the eastern hospitals all observers in the pain rooms sit behind glass screens.

So it came about that out of Sloane's misfortune and the method of procedure taken by the staff, great good has resulted to the profession. The fearlessness and intelligent honesty of the medical officers in charge has proved an inspiration to all of us and their advice as to pain and delivery room technique has proved invaluable to those wise enough to take it. However, it is not unusual to see in our own Louisville delivery rooms, circulating nurses and visitors with no masks on, and others wearing masks so applied that the nostrils are not covered. Such flimsy technique is only a gesture.

One point in prenatal care I would like to stress. All those patients should be warned against exposing themselves to infection. It should be explained to them that a pregnant woman is especially susceptible to infection, and with her all infections are apt to take on grave forms. A head cold may lead to bronchitis, the bronchitis to pneumonia, the pneumonia to a fatal termination.

Another important point to keep in mind is the danger incurred by a woman when she is delivered during the acute stage of an infectious disease. In this hospital we have never saved a woman delivered in acute measles. The majority of them have had hemorrhages, and all of them have died of pneumonia. The onset of labor can usually be prevented by the administration of narcotics and adrenalin. Proluton or some other form of the modern preparation of corpus luteum may prove to be of great value in such cases.

Robert F. Monroe (in closing): I appreciate the discussions and I enjoyed them. In addition to Dr. Pickett's point in regard to the patients protecting themselves against infection during the last month of pregnancy, it is inadvisable to use douches, or to introduce anything into the vagina. They should refrain from intercourse. Those things are causes of infection and the latter predisposes to early rupture of the membranes.

MANAGEMENT OF THE PREOPERATIVE PATIENT*

J. ALBERT VESPER, JR., M. D.

Covington.

"A stitch in time saves nine" is an old proverb and to the art of surgery the nine probably refers to nine nights of worry on the part of the doctor and nine hospital days for the patient.

Preoperative care is important—(1) to avoid accidents at operation (2) to minimize the complications of the post-operative period and (3) because it is preoperative care which is expanding scope of surgery and making doubtful risks and inoperable cases safe for advancing operative techniques. Foremost in preoperative care as I see it is sympathy which precludes kindness for the sick individual. The patient enters the doctor's office or hospital with fear and anxiety and if we are gradual in our approach and gentle in examination the patient becomes calm and cooperative. Then with a good physical examination, careful and thorough, and a complete history we can make an attempt at scientific diagnosis. THIS is good preoperative care. What have we accomplished? We have inspired confidence, attained mental and physical relaxation and given the best in our power to relieve suffering. The bedside manner and the ability to take illucidating history must be acquired by each individual but the fundamentals of the physical examination can be done just about as well by all with equal amount of time and effort. Every patient should have the following simple care preoperatively to prevent pulmonary complications:

(1) Teeth, buccal cavity and nasopharynx should be examined and mouth washes, gargles, tooth paste used. Dental consultation is advisable where serious conditions of teeth and gums exist.

(2) The upper respiratory tract does not get sufficient attention and this is probably the reason for the high incidence of cough and pulmonary complications in simple elective operations. We consider the general examination so lightly and patients usually enter hospital the morning of operation without much study or rest which is our best weapon to clear up respiratory low grade infections. The upper respiratory tract is very important because the only treatment of postoperative pulmonary complications is for most cases only preoperative prophylaxis. For the more serious forms of lung complications

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*Read before Campbell-Kenton Medical Society October, 1936.

we have oxygen and prayer. Therefore if a patient has temperature of 99.5 the morning of operation with cough—postpone operation. Observe patient for at least 2 days preoperatively in all operative cases, this permits of rest (22 hours of the 24 should be bed rest), this gives all organs and tissues a chance to improve as general body catabolism is at a minimum. One hour morning and afternoon permitted the patient to be up and about helps the general morale of the patient, permits feeling of well-being, aids sleep and causes an improved circulation of blood and lymph. (3) Control of the patient's temperature is where we all fail. I remember an old farmer being brought in from his farm duties and his "corn cob" pipe with a strangulated hernia in February. His heavy wool underwear which he said he wore night and day was removed by the orderly and a short, thin hospital gown was substituted, the interne exposed him completely to examine him, the surgeon did likewise, the assistant did likewise, exposing chest, abdomen and extremities completely. The orderly then took him to the treatment room and prepared abdomen with douches of cold soap and water, cold alcohol, cold antiseptic and dried with cold ether. Then the operating room attendant leaves him to wait for anesthetist on operating table with his square yard of muslin for protection. What a storm of insults are heaped upon his most delicately compensating "heat regulating" center! What barriers to the invading pathogenic respiratory organisms are broken down by this ordeal! So we can probably do a great deal by protecting our patient during examinations, in going to and in the operating room.

The following are operative but are preoperative in the broad sense; Careful anesthetic and avoidance of trauma. Just the manipulation of the simpler laparotomies is followed by 4-5 days of absent abdominal breathing as we have observed in our cases in the last 6 months. During this time we have shallow chest expansion and tendency to congestion of the lungs in addition to lymph stasis and vascular stasis in the lung tissues. Therefore in last three months we have ordered deep respirations every hour for 24 hours preoperative and 24-78 hours postoperative. Better yet would be to give oxygen-carbon dioxide to produce deep breathing.

The genito-urinary tract should at least have a complete urine examination with its investigation before morning of operation so that abnormalities can be dealt with such as glycosuria, severe albuminuria or ketonuria. If such requires postponement of operation it affects patient's morale and his confidence in the surgeon. Diacetic acid in absense of sugar, acetone or acidosis is no contraindication to operation.

Disease has started an acidosis and acidosis is increased by: 1. Light diet, 2. Trauma, 3. Hemorrhage, 4. Shock, 5. Pain, 6. Local and general anesthesia. However only pre-existing acidosis is troublesome as acid developing from any anesthetic is negligible according to Caldwell and Cleveland. So it is important preoperatively to see that the urine is neutral to methyl red and if acid reaction exists we can protect patient by adequately feeding carbohydrates and citrus fruits. In addition we can give Fischer's mixed alkalies, sodium bicarbonate 5 parts, calcium carbonate 1 part, magnesium oxide 1 part; give one dram four times daily.

Patients with high blood pressure have subnormal renal function and if there is reason to suspect kidney function do a PSP test and a recovery of 25 per cent in 2 hours is the minimum of safety as regards a functioning kidney. Blood chemistry will help decide the situation as blood NPN, urea concentration test, etc. What can we do if kidney is involved? The two best agents are the simplest on earth, water is our best diuretic and carbohydrate protects kidney in that body does not use its tissues and break down protein to form nitrogenous products for the kidney to eliminate. Other drugs seem to be of no avail.

As regards the cardio-vascular system:

(1) We must remember that acute and chronic toxemias have effect on the myocardium.

(2) In every case of hypertension there is a cardiac and renal association.

(3) Myocardial changes are associated with aged patients, thyroid patients and patients with fibroid uteri. Brown of Hopkins also brings out the association between gall bladder and myocardial pathology.

(4) Patients with rheumatic and luetic histories.

However we are fortunate in that heart conditions (with exception of that associated with aortic ring involvement) with an adequately functioning myocardium withstand surgery without undue risk. Postoperative cardiac deaths are in reality often renal deaths.

(5) Always take hemoglobin estimation in acute infections and long standing chronic infections and if below 60 per cent transfuse. In a group of patients of same age with same operative procedure the mortality for those with 60 per cent hemoglobin or better was 3.5 per cent but in a group with less than 60 per cent hemoglobin there was a 23 per

cent mortality. Transfusion is an excellent preoperative procedure in patients with hemoglobin below 60 per cent, cases with 3,000,000 or less red corpuscles, cachetic individuals and septic cases. Also remember a healthy body produces a normal blood status in short time (less than a week) in case of acute hemorrhage which has been stopped. One must also remember the relationship between anemia and dehydration—if greatly dehydrated an anemia will be masked by reduction in fluid content of the blood. A bleeding time above 3 minutes (Duke Method) and a coagulation time above 4 minutes should be considered abnormal and is a good routine examination before operation. In jaundice cases calcium chloride may help but transfusion is surest and whole blood or horse serum in muscle is efficacious.

The immediate preoperative care is as follows:

(1) Patient should be assured by all concerned the night before operation and no examinations or preparations done.

(2) Patient should be given a restful night, using barbital series or even a narcotic if needed.

(3) Patient can take water up to within 1 hour of operation because water leaves stomach within an hour.

(4) Purging the bowel is unnecessary and it merely insures the patient needless postoperative abdominal discomfort due to the irritated gastro-intestinal tract. Saline purge is good if patient is highly toxic but restore the fluids. Mineral oil every night for 3-4 nights is good and an enema anywhere from 2-24 hours preoperatively. Afternoon before operation seems best time for the administration of the enema because

(a) it does not too closely approach time for preoperative rest, (b) it empties the distal part of large bowel sufficiently for next morning, (c) because the overactivity of colon due to enema has subsided by the next morning. Plain water is all that is necessary but normal saline is better because mucosa of bowel is not affected by isotonic salt.

(5) Patient should not be delayed to operating room because medications have been given and is most difficult period mentally for the individual, (inquire of your patients about this point).

(6) Patients should be received in the operating room by person who is sympathetic, intelligent, pleasing and if possible—a Nun.

(7) Patient should be anesthetized as soon as reaching operating room so as to relieve apprehension.

(8) Use of stomach tube preoperatively:

(a) In all emergencies with greatly distended abdomen, it may indicate dilated stomach and make operation unnecessary and it will prevent an aspiration pneumonia when anesthetic relaxes the sphincters. It is a most useful procedure in traumatic abdomens, intestinal obstructions and peritonitis preoperatively.

(9) Patient should have fluids. Why is this so very, very important? When we investigate composition of living matter with its properties of memory, growth, happiness and suffering we are surprised to find it composed of water to extent of 70-90 per cent and the more vigorous, the more alive and growing cells are more watery. With this fact in mind we can see that any change in amount of water normally present makes change in activity of cells so if we maintain the water balance the cells can continue to thrive, grow—reproduce. Thus if we supply water to the amount that is necessary daily the reticulo-endothelial system can supply the patient with white blood cells without our trying to stimulate an increased white blood count with non-specific proteins, vaccines, etc., because we have a system which is needing only water to assist it, to thrive—grow—reproduce. In addition we would help all body cells continue a normal metabolism and thus prevent metabolic disturbances, no acidocis and we would not need alkalies; we would lessen fever and headache and thereby we would not need all the coal tar drugs; we would make the need of opiates and barbitals less to make the patient rest; the external antiseptics less because the local cells would maintain a local resistance, their natural power of fighting infection. Then with well tolerated food and body rest in addition, why I can readily see why animals survive their illnesses.

What is fluid requirements of a normal individual under normal conditions? 3200 cc, daily is required.

1500 cc. lost by kidneys, 1000 cc. lost by lungs, 500 cc. lost by skin, 200 cc. lost by bowel.

Now we are dealing with a sick individual, what is fluid need? In simple febrile conditions we must add 500 cc. for each degree when temperature is above 100.5 (2 degrees of fever).

More fluids must be given preoperatively in diabetes and hyperthyroid states, about 4-5000 cc. daily intake. If excessive perspiration, hemorrhage, vomitng, diarrhea or exudation exists preoperatively estimate the loss of fluid by this means and add this to the fundamental need.

In patients with oedema, as cardiac and

nephritic cases requiring surgery it must be limited to extent controlled by clinical conditions as observed from time to time.

Twice the volume of fluids given 12 hours too late will not relieve a condition that half the volume given early will relieve and Dr. Connell has given 12,000 cc. in 24 hours without deleterious results. When fluids are needed for general use a 5 per cent glucose in saline is best. We know the value of the water. Glucose is good because (1) it protects kidney by being food energy and thus body tissues are not burnt to produce nitrogenous products. (2) It protects liver and maintains glycogen storage. (3) Next to water it is the best diuretic. (4) It is the most essential metabolite used in the mechanism of muscle contraction and thus helps the myocardium. (5) It prevents acidosis because one of the most important causes of acidosis is deficient utilization of carbohydrate. (6) Its food value. (7) When given in form of 5 per cent solution it is isotonic with the blood.

Salt is of value because (1) it helps maintain the acid-base balance, (2) it allows fluid retention in the tissues, (3) it aids in osmosis, (4) it maintains the tone of intestinal musculature, (5) it has bactericidal power, (6) restores chloride loss in vomiting, excessive sweating, diarrhea, and exudations, (7) it makes the water isotonic with the blood when used in 0.9 per cent solution. This makes the most useful solution for general use. For special needs as with great chloride loss 3-10 per cent salt solution is useful. When nourishment is primarily or entirely maintained by intravenous route then 10 or 20 per cent glucose in saline is used. For the calculation of amount of 10 per cent glucose necessary we must consider that we need 33 calories per kilo, 40 calories if fever exists. Dextrose yields 4 calories per gram. In 1000 cc. of 10 per cent glucose is 100 grams of dextrose. For 150 lb. man or about 75 kilograms we have 75 Kg., multiplied by 40 calories equals 3000 calories divided by 4 calories in gram of glucose means that 750 grams of dextrose is needed to maintain a 150 lb. man with fever. It means that he needs when translated into cc, of 10 per cent solution 7500 cc. glucose daily. Far more than we give or even dreamed of giving.

In acidosis 10 per cent dextrose in Hartman's solution is best. This solution is sodium chloride, calcium chloride, potassium chloride, which is Ringer's solution and was designed to be a blood imitating solution and Hartman added sodium lactate which was found to compensate for loss of bicarbonate.

In diabetic surgery 10 per cent glucose in saline is used and as each 10 cc. of 10 per cent glucose contains 1 gram of glucose we give subcutaneously 1 unit of insulin for each 10 cc.

Thus we see that there is much we can do for the patient long before that sacred hour when the scalpel is King and mighty. Let's not expect a smooth convalescence and beautiful result when the order sheet on the chart says, preoperative orders. Morphine and Atropine before going to operating room.

Let us keep physiological facts in mind and apply them clinically. Let us try to usurp the motto from the Boy Scouts and make it that of the surgeon, "Be Prepared." And finally, do not forget the words of Claude Bernard, "All things living, live in water."

THE TREATMENT OF PNEUMONIA IN CHILDREN AND INFANTS*

HARRY S. ANDREWS, M. D.

Louisville.

In children the two most common types of pneumonia are: 1. Broncho-pneumonia, (Primary or secondary): 2. Lobar or croupous pneumonia. I will limit my discussion to the treatment of these types and not discuss interstitial and hypostatic pneumonia. In discussing the treatment of pneumonia in children I might consume a great deal more time than has been allotted to me, so for the sake of brevity I will consider together the treatment of the two diseases.

Lobar pneumonia in children is self-limited and usually runs a favorable course, the mortality is from 2 to 5 per cent. Aside from general care the best treatment is the absence of it combined with skillful nursing care and close observation by the physician. Broncho-pneumonia, with a mortality of 10 to 25 per cent in private practice and a great deal higher in hospital practice, requires more symptomatic treatment.

GENERAL CARE: The patient should be kept in bed from the onset and kept wrapped in warm but light covering. The position should be frequently changed to prevent the development of hypostatic pneumonia. The room may be kept filled with cold air except in infants and broncho-pneumonia with excessive bronchial secretions. In these warm moist air is most essential for comfort. Under any circumstances the room should be well ventilated and fresh air kept circulated.

SPECIFIC THERAPY: The use of antiserum has very little value in children, even with the rapid typing of the organism as is now used. It may be used in children over 12 years, but in younger children the greatest number is Type IV. We have no effective antiserum for this type. Huntoon and Felton both have prepared refined serum that they claim reduces the mortality. Convalescent serum has been used with success by some. Beneficial results from the use of mixed vaccines have been claimed by some of the leading clinicians. None of these "specific therapy" measures have been generally accepted by the profession as having a place in the treatment of pneumonia in children.

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*Read before the Jefferson County Medical Society, November 2, 1936.

NON-SPECIFIC THERAPY: Artificial pneumothorax has been used since 1918 with varied success. Leopold thinks it is not indicated for children. The reason for this is that the illness of children does not warrant it and there is more of a tendency to form empyema in children than there is in adults. Air injections cause some irritation to the pleural surface and may increase the incidence of empyema. We have used it on selected cases with varying results. I have seen pleural pain relieved by it. Diathermy has been used by some with good results. I have had no experience with this method. X-ray has been used in the lobar type with varying success. Quinine and its derivitives have been used routinely but there seems no need for this use in children as the results are inconclusive and the prognosis in croupous pneumonia does not warrant its use. In anemia or prolonged broncho-pneumonia transfusions are quite beneficial. I have used this therapy with excellent results. Repeated small transfusions are better than one large one.

LOCAL APPLICATIONS: This therapy is not indicated in lobar pneumonia but may be of value in broncho-pneumonia. Counter irritants such as mustard plasters, musterole, etc., may help in the broncho type with the pleuritic pain or bronchitic element prominent.

OXYGEN AND INHALATION: Oxygen in concentrations of 35 to 55 per cent is quite beneficient both for relieving anoxemia and fatigue from rapid respiration. It should be started early with the first indications of respiration fatigue or with first appearance of cyanosis. It should be continued until, by gradually reducing the concentration to or near atmospheric concentration, there is no increase in respiration or cyanosis. It may be administered by chambers, tents, catheter in nasopharynx, and masks.

Where cough is a prominent symptom inhalation of menthol, benzoin, oil of pine etc. may be used with relief of symptoms.

MEDICATIONS: In general medicines should be omitted unless indicated. The possibility of a gastric upset must be borne in mind with the use of drugs. Digitalis, the much debated drug in pneumonia, should be used only where there is auricular fibrillation, flutter or failing compensation. Then the patient should be digitalized as if pneumonia was not present. I do not think other drugs do very much good with the exception of opium. Morphin and codein both may be employed with benefit for both support of the heart and restlessness and the annoying cough so often seen in broncho-pneumonia. Children tolerate more opium proportionately than adult.

NUTRITION: This is not so important in the lobar type as the disease is short. The food should be of rapidly assiminable carbohydrates by mouth, subcutaneously or intravenously. Milk may give distention and should be used cautiously. In broncho-pneumonia the caloric intake should be kept up to requirement because the disease may be prolonged and quite exhaustive. Much water must be given daily to keep the patient well hydrated. If this cannot be given by mouth other sources must be sought.

UNFAVORABLE SYMPTOMS: Failing circulation is not due to simple cardiac failure, the failure of circulation is due to a generalized toxic effect upon the cardiovascular mechanism particularly the vasomotor center, with a condition resulting similar to shock with peripheral circulatory failure. The treatment of this is by intravenous administration of fairly massive amounts of fluid and repeated transfusion to combat existing toxicity. The extremities should be kept warm. I have been very favorably impressed with this form of therapy.

Cyanosis should be treated by oxygen therapy upon its first appearance. Nervous symptoms from toxicity should be treated by sedation from opium and warm baths. Warm baths alone combat these symptoms. Distention may be treated by rectal tubes, stupes, and enemas. In such eserine, pituitrin, pitressin or acetylchlorine may be used. Bruck and others have found that the use of sodium chloride (25 grams daily) may prevent distention by replacing the depleted chlorides in pneumonia. I have used hypertonic saline intravenously with relief of meteorism. The prevention of this condition is much to be desired and is much preferred than its treatment.

CONVALESCENCE: The patient convalescing from lobar pneumonia recovers rapidly and can be given a full diet immediately. However complete bed rest should be insisted upon for at least one week after normal temperature. If the pulse is fast, irregular or weak or if there is delayed resolution the patient should be kept in bed much longer.

In broncho-pneumonia the patient does not convalesce so rapidly and should be treated much longer as a convalescent patient. They are in feeble health for some time and an attempt should be made to combat anemia; stimulate a failing appetite; and to improve the general health. A child does not completely recover from the effects of this disease under a year and during this period he should be protected from undue infections, fatigue and exposure.

THE PHYSIOLOGY OF OXYGEN WANT*

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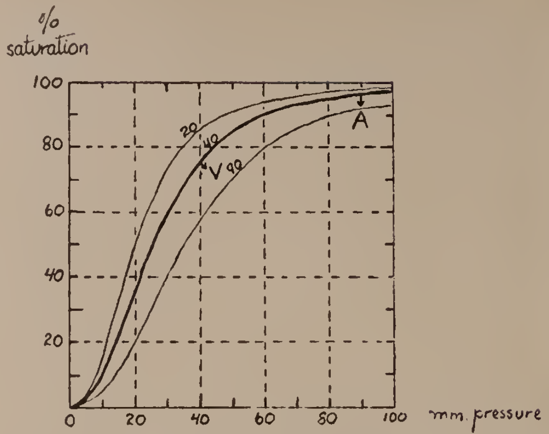
Louisville.

For many years "oxygen want" has been referred to in scientific literature as anoxemia which means, literally, lack of oxygen in the blood. In recent years physiologists have been speaking of anoxia, meaning simply lack of oxygen or oxygen want, rather than of anoxemia, since it is the broader meaning of deficient oxygen supply to the tissues rather than a simple deficiency of oxygen in the blood which produces the symptoms so well known under the term anoxemia. Since clinical usage has sanctioned that term anoxemia, it will be used in this paper synonymously with the term oxygen-want. Its proper meaning should not be lost sight of, however.

Perhaps the best approach to the subject is a review of the elementary principles of oxygen transport in the blood. It is, of course, superfluous to state that practically all of the oxygen is carried by the hemoglobin of the red blood cells, but that fact must be taken as our starting point. It is, perhaps, not generally appreciated that a little of it (0.3 per cent) is carried dissolved in the plasma; this amount is but a very small portion of the total amount carried in normal blood, but it is a very important fact, for oxygen, to reach and leave the red blood cells, must pass through the plasma, so that the fact that oxygen is soluble in plasma is a very vital one.

Now, how does oxygen enter the blood, and why? Let us recall that all gases possess the property known as pressure or tension, which represents what the name implies, that is, a force inherent in the gas itself which drives it to dissolve into or out of fluids with which it comes in contact. It varies directly with the concentration of the gas in a mixture (partial pressure). Now air contains 21 per cent oxygen whose pressure or tension is approximately 150 mm. of mercury. When air is breathed, by the time it reaches the alveoli of the lung, its oxygen content has fallen to 14 per cent, due to mixing with the residual air whose oxygen content is lower. This represents a pressure or tension of about 100 mm. mercury. Now, separating the alveolar air from the blood are only two thin layers of cells which are extremely—almost instantly, pervious to the passage of oxygen through them. Consequently, oxygen will pass through these cells from the side of higher oxygen pressure to the side of lower oxygen pressure.



The left thin line is the oxygen dissociation curve of human blood at a constant pressure of 20 mm. CO, 2. The center heavy line is the curve for constant pressure of 40 mm. CO, 2. The right thin line is the curve for constant pressure of 90 mm. CO, 2. A represents the percentage saturation and O, 2 pressure of arterial blood and V of venous blood.

Now, venous blood returning from the tissues contains 15 volumes per cent oxygen under a pressure of 40 mm. of mercury. Since the oxygen in the alveoli is under a pressure of 100 mm., it therefore diffuses through the alveolar walls and capillary endothelium from the alveolar air in to the blood, passing first through the plasma on its way into the hemoglobin of the red blood cells, the whole process taking place very rapidly so that blood leaving the lungs is practically completely oxygenated, therefore. In other words, the arterial blood leaving the lungs contains 0.3 cc. of O_2 in simple solution under a pressure of 150 mm. of Hg. and 19.7 cc. in combination with Hgb. 96 per cent of the hemoglobin is in the form of oxyhemoglobin, or in other words, the hemoglobin is 96 per cent saturated with O_2.

Now the relationship between oxygen tension or pressure and oxygen content in blood is not a simple one. If the oxygen tension and the percentage saturation representing the oxygen content are plotted against each other, not a straight line but an S-shaped curve results. This is known as the oxygen dissociation curve. It is seen that as the oxygen tension rises the oxygen content or hemoglobin saturation with O_2, rises, first proportionately, then very rapidly, then more slowly and finally very, very slowly. At the oxygen pressure of venous blood (40 mm.) hemoglobin is 70 per cent saturated with oxygen; as the venous blood passes through the lung capillaries and the oxygen tension rises, it becomes more saturated, until at the tension of arterial blood (100 mm.) it has become 96 per cent saturated.

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*Read before the Jefferson County Medical Society.

Now, the shape and height of the curve are greatly influenced by the CO_2 in the blood. CO_2 and 0_2 are antagonistic, the one tending to drive the other out. When the CO_2 tension is low, the curve is displaced to the left (thin line) so that for a given oxygen tension, the percentage saturation is greater; whereas when the CO_2 tension is high, the curve is displaced to the right (thin line) so that for a given oxygen tension the percentage saturation is lower. This should be recalled as we discuss the further progress of the transport of oxygen in the blood.

Now, let us resume our study of the changes in oxygen content as the blood makes its circuit. We left it in the pulmonary veins, oxygenated to 96 per cent of saturation, carrying 20 volumes of oxygen per 100 cc. of blood, at a tension of 100 mm. No change in its composition occurs until it reaches the tissue capillaries. There it finds an oxygen tension of only about 10-35 mm. The difference in pressure causes the blood to give up its oxygen until the blood and the tissues approach equilibrium; in so doing, the oxygen tension of the blood falls to 40 mm. as the percentage of hemoglobin saturation falls to about 70 per cent, representing 15 volumes per 100 cc. of blood. This process is greatly facilitated by the diffusion of CO_2 from the tissues into the blood. The consequence is that the venous blood returns to the lungs with an oxygen content of about 15 volumes per cent with hemoglobin 70 per cent saturated, and with an oxygen tension of about 40 mm. In the lungs it again meets alveolar air with an oxygen pressure of 100 mm. and the cycle starts over again. Simultaneously, the excess CO_2 is given off into the lungs.

One might read the dissociation curve from right to left from A to V to see what goes on in the tissues, and from left to right from V to A to see what goes on in the lungs.

With these facts before us, it becomes easier to understand the mechanisms of oxygen want or anoxemia, bearing in mind that we are discussing lack of oxygen supply to the tissues and not only lack of oxygen in the blood. What are the possible conditions which will interfere with proper oxygenation of the tissues?

(1) Firstly, we may consider conditions which injure the tissues themselves so that they are unable to make effective use of the oxygen supplied to them. This is known as the *histotoxic* type of anoxemia, and occurs in poisoning with cyanide; narcotics also depress tissue oxidation. It is obvious that in this type the oxygen content of the blood may be perfectly normal.

(2) Secondly, there are those conditions which, although the arterial blood is completely saturated, the capillary and venous blood is nearly unsaturated. Such a condition results when the blood flows very slowly through the tissues as in congestive heart failure, or in shock, and is known as the *stagnant* type. It is in this type that cyanosis is particularly marked, for the capillary and venous blood contain little oxygen.

(3) Thirdly, there are those conditions in which the blood is unable to contain the normal amount of oxygen. Any condition in which the total available hemoglobin is reduced either absolutely, as in anemias, or effectively, as in carbon monoxide poisoning, results in a deficiency in its oxygen-carrying capacity. This, the *anemic* type of anoxemia occurs not only in the anemias and in carbon monoxide poisoning, but also in poisoning with the nitrites and the chlorates.

(4) And finally, anoxemia results when anything interferes with complete oxygenation of the arterial blood. This is known as the *anoxic* type. In general, insufficient oxygenation may be brought about in three main ways:

(1) By short-circuiting the blood so that some of it does not pass through the oxygen-containing alveoli, so that incompletely oxygenated blood mixes with oxygenated blood, resulting in a mixture whose degree of saturation is less than 96 per cent. Such a condition occurs in certain congenital abnormalities of the heart and blood vessels, in collapse of a lung where some of the blood flows through the unventilated portion of the lung, in atalectatic areas of the lung where breathing is shallow, in pneumonic areas of consolidation where the blood flow is not entirely cut off, and in emphysema where the relatively under-distended alveoli receive more blood than the over-distended and better ventilated alveoli. In asthma and severe bronchitis the same thing is true.

(2) By any condition which lowers the oxygen content of the alveolar air as in high altitudes.

(3) By alteration of the alveolar epithelium, as by acute inflammatory conditions, such as pneumonia and gas poisonings like chlorine, and in heart failure where there is edema of the lungs.

In lobar pneumonia, therefore, anoxemia is brought about in three ways:

(a) By decreased ventilation, caused both by the toxic effect of the toxins on the respiratory center and the limitation of respiratory movements by pleural pain, resulting in a lowered alveolar oxygen tension.

(b) By inflammatory injury to the epithelium of the alveoli, interposing a barrier to the free diffusion of oxygen from the alveoli into the blood.

(c) By short-circuiting of blood through the non-ventilated consolidated areas of the lung.

What are the clinical effects of oxygen want? These depend to a considerable degree upon the rapidity with which anoxemia results. When the anoxemia develops suddenly, as when a miner sticks his head into a pocket of mine gas, as soon as the critical pressure of oxygen in the alveolar air is reached, he drops suddenly, unconscious, as if felled by a blow on the head; indeed, these men very often think that they have been hit and upon recovery, are apt to pick a fight with those about them. When the anoxemia develops more slowly, but still within a period of minutes or hours, as in a balloon ascent, a very remarkable series of symptoms occur. These have been described especially by Barcroft and Haldane from their own experiences. The symptoms develop insidiously and the patients are usually not conscious of them. Some experience a sense of exhiliaration or buoyancy. The important psychological changes which occur involve chiefly voluntary coordination and attention. Perception, discrimination and memory show no impairment except as affected by impaired motor control and attention. Finally, paralysis develops, of an ascending type, involving the head and face last; then coma and finally death.

When symptoms develop more slowly still, as in mountain climbing and in pneumonia, a different series of symptoms develop. The onset is still insidious, with lassitude, headache, and nausea and vomiting. The pulse quickens, there is palpitation, respiration becomes deeper and more frequent, the face is pallid, and lips and nails are cyanotic. Mentally, fatigue occurs easily, attention is poor, emotional disturbances of an almost uncontrollable nature may occur.

It is interesting that certain of these symptoms, namely, dyspnea, sighing, palpitation, precordial pain, and easy fatigue, are those of effort syndrome or neuro-circulatory asthenia. Some believe that this condition is a manifestation of anoxemia.

The purely physiological considerations which accompany the anoxic type of anoxemia are so extremely complicated that I shall not attempt to discuss them here except to say that they are dependent upon the fact that the CO_2 in the venous blood is excessively washed out into the expired air, due to the increased ventilation of the lung. This lowers the CO_2 tension in the blood, depresses the respiratory center, and enables the hemoglobin to hold on more tightly to its oxygen, thus tending to deprive the tissues of a sufficient oxygen supply—true anoxia. Changes in the circulatory system occur, some of them by way of compensation, but these are not as yet perfectly understood. It is known, however, that cyanosis usually develops when the arterial saturation falls to about 85 per cent.

How unsaturated does the blood become in pneumonia? In severely cyanosed patients, the arterial blood is on the average about 75 per cent saturated. Patients who survive usually have a percentage saturation of 85 per cent or more. When the percentage saturation falls below 70 per cent, the case usually ends fatally.

What does oxygen therapy do? It serves first to increase the oxygen content of the alveolar air, thus increasing its partial pressure or tension. This allows oxygen to diffuse through even damaged epithelial membranes and so increase the oxygen tension of the arterial blood, and hence to supply oxygen to the tissues under a greater head of pressure. It must be borne in mind that unless the membranes are still capable of transmitting an increased amount of oxygen under this increased pressure, oxygen therapy will be of no avail. And furthermore, when the ventilation is decreased from depression of the respiratory center, oxygen therapy will be of no avail either, for the decreased ventilation will prohibit a sufficient concentration of oxygen from reaching the alveoli. In such cases the supplementary use of CO_2 in the mixture or stimulation of the respiratory center by caffeine are often as important as the oxygen in raising alveolar and blood oxygen tensions sufficiently to be of benefit. And, finally, since the body contains no store of oxygen, oxygen therapy, to be of service, must be administered as long as needed; intermittent or interrupted therapy is generally valueless.

DISCUSSION

P. F. Barbour: I want to limit my discussion to Dr. Andrews' paper. He has condensed down in his paper the treatment of two very different conditions. Lobar or croupous pneumonia has a far lower mortality rate than broncho-pneumonia. However, while the mortality is low there are several factors which should be very carefully attended to.

First the pleuritic pain is often severe and is a forerunner of pleurisy and a possible empyema with a prolonged convalescence. Local applications and perhaps diathermy can lessen the pain and possibly prevent the development of pleurisy.

Secondly intestinal upsets with marked tympany on the fourth or fifth day of the disease may easily be the deciding factor in causing death. The diet should be so arranged as not to produce gas in the intestinal tract. If gas does occur measures should be taken to relieve the condition promptly.

Thirdly the possibility of sudden heart failure should be constantly kept in mind. I have not seen shock in children though it may and probably does occur in the adult. Postmortem of a child dying from pneumonia usually shows acute dilatation of the heart. In comparing the mortality in adults, which is 25 per cent and more, with the 3 to 5 per cent in children one cannot attribute it entirely to the toxemia for the toxemia is the same in both cases. There is however, a difference in the heart of a child and an adult in that the adult heart has had many insults from various infectious diseases each of which has left some myocardial degeneration and also the various excesses in food, alcohol, tobacco and strenuous exercise have each left their mark. The right ventricle of a child proportionately is stronger than the right ventricle of an adult. Certainly it is important to recognize impending heart failure by the increase in the area of deep cardiac dullness, the movement of the apex to the left and upward and the disappearance of the P^2 accentuated sound. If one is heart conscious it will not be difficult to know when to give digitalis and in what doses.

As pneumonia in children is due most often to type 4 including other types up to 42 for which no serum has as yet been prepared it is difficult to believe that treatment with a specific serum or bacterial vaccine offers much promise.

In broncho-pneumonia the danger is not from circulatory failure but from respiratory failure. The child's bronchial tubes and lungs are filled with mucus so that the effort of inspiration and expiration is greatly increased. Rapid respiration where there is no obstruction puts very little strain upon the strength of the child for a normal child after violent exercise will breath 75 to 100 times to the minute for awhile. My dog will pant 150 times to the minute without any apparent exhaustion. When a lot of mucus blocks the bronchial tree respiration will cause a recession of the intercostal spaces and of the diaphragm at the costal insertions, and expiration will show the exact opposite. This measures the greatly increased load upon the respiratory mechanism.

Of the many remedies which may be suggested for this condition I believe that thorough alkalinization is the best agent to thin the mucus and relieve the respiratory difficulty, if and when the other measures Dr. Andrews has so ably recommended, oxygen and repeated small blood transfusions, have failed to give all of the results that are desired.

James Bruce: The practical application of rest is worth speaking of in taking care of pneumonia cases. It is important not to be doing the unnecessary things. The nervous mother or nurse puts the patient at a disadvantage. Changing the pillows, the position in bed, etc., keeps the little fellow from resting, which is the only thing that will do any good. As for the oxygen tent around the child—its chief value, more than the giving of oxygen, is to keep the mother or nurse from doing all unnecessary things.

In the administration of fluid. How many times you will see stale water by the bedside. How much better some good tasting drink to administer by tube or nursing bottle. A very practical point, that 6 to 8 ounces will be taken where only 1 to 2 teaspoons would be otherwise.

As for sedatives, my own preference is for the barbiturates, which will get the cough down and make the child more comfortable. Then there is also good old red whisky. Children like it. It does have a sedative effect on the cough. But, as we know, it can upset the stomach if used in large amounts.

With regard to the value of transfusions, I have seen some unfortunate results. But, if done very slowly and with carefully matched blood, a small amount at a time, cases of broncho pneumonia which have lasted longer than a week derive a great deal of value from them.

Alexander Nettleroth: I think this is my first appearance in a year and I wanted to celebrate by discussion. Dr. Bruce has done me a great kindness in saying verbatim what I intended to say, so you may appreciate my predicament. The papers read have been splendid summaries and have the added advantage of brevity.

I wanted to refer to a case I have just had. A young adult who had a "cold," some temperature, expectorating a rust-colored sputum, pulse very good. He complained of a pain rather low on the left side and I construed it to be diaphragmatic pleurisy. His family was excitable, asked me, "Must he go to the hospital?" "Nothing of the kind," I replied. (The notion that you can nurse a patient to health when suffering from respiratory disease has killed many a one. Most likely you have had the experience.) "You do not need a nurse," I told them, "you take his temperature twice daily; if you take two temperatures I can estimate the intervening temperature. Then let him alone!"

Lack of oxygen is so grave that it leaves you but one recourse, diminish oxygen want. Everything except the vital necessities deserve to be ignored to avoid unnecessary interference and exertion of the patient. Let him alone; tend only to necessary wants; change garment and bed linens as infrequently as possible. The necessary thing is to give the patient all the fluids he can manage with comfort. Let him have food if he likes it. Give him abundantly of palatable fruit juices; and that ought to be often. And then, mirabile dictu! I speak kindly of whisky. "Fix it any way you like." These were my orders and the patient's temperature dropped quickly to 98. The same thing can be done with children.

The great trouble is the solicitude of family and friends. You can't walk across the floor without a patient becoming interested, and more animated. He breathes deeper, asks questions. That means more frequent respiration. When you give the patient more than the minimum disturbances by too solicitous nursing, you are decreasing his chances of recovery.

A. A. Shaper: Several years ago someone wrote a paper on "How to Kill a Patient with Pneumonia" by treating the patient in a dark stuffy room, constantly disturbing him with medications and chest poultices, burning a gas stove constantly, and a dog beneath the bed. His treatment was just the opposite of Dr. Andrews'. I fully agree with Dr. Andrews in the treatment of pneumonia with one minor exception, that of counter-irritation of the chest. I have rarely seen the benefit of applying poultices and counter-irritation to the chest and have dispensed with this form of treatment. No one doubts the value of oxygen in Pneumonia and anyone who has seen a patient with air hunger and in distress placed under an oxygen tent and soon notice the patient's temperature drop, his cough relieved, the patient perspiring and then falling asleep can appreciate the relief afforded by a tent. If oxygen is indicated it should be used early. As has been brought out drugs should be used sparingly, plenty fresh air, the use of phenobarbital and codein for rest and cough is beneficial. Transfusions have a definite place in the treatment. Where oxygen seems ineffective, mixtures of oxygen and helium are recommended.

A. Albert McCown, Washington, D. C.: It is a great opportunity to appear here before the Jefferson County Medical Society. I have been out of private practice two and one half years so I feel a little lost in clinical matters. I have enjoyed these two papers very much. They reminded me of my own training under Dr. Howland at Harriet Lane. Where the patient is troubled by coughing, the use of sedatives is advocated. In two of my own cases in the limited number in which I tried that field, the use of adrenalin was very proficient.

I would like to say a word about the work I am now doing; the Child Health Bureau under the Social Security Act. While district officials have all submitted plans, fifty of these plans are in operation. I do not know how familiar you are with the old system, but I would like to say a word, that these plans are administered through the state health department. We are very happy that in the State of Kentucky the administration of the Health Plan is under the new president of the American Public Health Association, Dr. A. T. McCormack, because then we can expect that there will be cooperation with the medical profession. That cooperation has been maintained to a remarkable extent. In 1934 there were 32 states which had health organizations. Today every state which has sent in a plan has a division of child health with trained physicians and obstetricians.

M. G. Buckles: One thing occurs to me that has not been mentioned though Dr. Andrews and Dr. Barbour brought out the indication, that is, aspiration of accumulated endobronchial secretions by use of the bronchoscope. We have had occasion to use this several times and with favorable results, especially in secondary pneumonia. Aeration is again allowed to take place.

Dr. Kinsman's paper was profound, bringing out the physiology of oxygen therapy, emphasizing the necessity of permeability of the cell membrane. That, of course, is why we get so little results with oxygen in chronic pneumonias such as tuberculosis, silicosis, etc.

H. S. Andrews (in closing): I appreciate very much the general discussion given this paper and will make my closing remarks brief. There are a few points brought out that I would like to reemphasize. Dr. Barbour discussed the cases of bronchial pneumonia with the tenacious bronchial secretions. This is a very annoying condition and a great deal of work is being done in this country at the present time to relieve these conditions as was brought out by Dr. Buckles. Some clinics are doing bronchoscopic aspirations at the onset of pneumonia.

I would like to reemphasize again the point of fluids which was discussed by Dr. Bruce. I think giving an abundance of fluids is very important and cannot be emphasized too much. So far as I am concerned water is as good as any other type of fluid and is in many instances the easiest fluid to give a patient. Some of the other liquids may cause distention and if such is found they should be discontinued immediately.

I did not discuss the use of whisky because in a paper of this nature it is impossible to discuss all things used. However, I think whisky is a very excellent drug in all respiratory diseases.

UNUSUAL FOREIGN BODY IN RECTUM

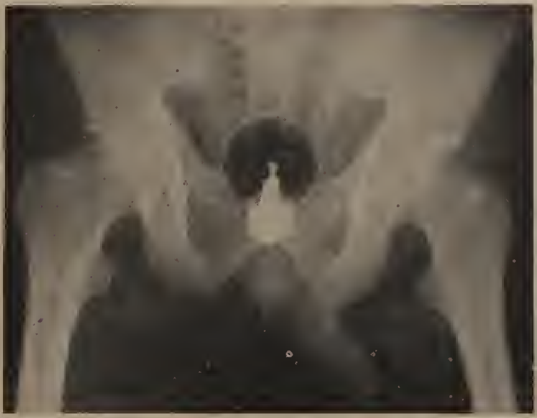
Rufus C. Alley, M. D.

Lexington.

A. A. L., a white male age 52, a father and grandfather, walked into the Good Samaritan Hospital, Lexington, Kentucky, March 29, 1936, and requested that an electric light bulb be removed from his lower bowel. He stated that he, with some friends, had been drinking heavily for several days and that the night before they had forcibly restrained him and inserted the bulb in his rectum.

On digital examination the bulb was easily felt in the rectal ampulla. Because the patient was intoxicated when admitted he was put to bed for 24 hours. The next morning, after making X-ray films, he was taken to the operating room.

Under sacral block anesthesia excellent relaxation was obtained and the light bulb could be easily felt and seen in the mid portion of the rectum. Fortunately the screw end of the bulb was directed toward the anus. It was grasped with a heavy toothed forceps and found to be firmly impacted due to swelling of the perirectal structures. After finding that intact removal was impossible, gauze was packed around the bulb and it was broken. The fragments were extracted without difficulty and with only slight damage to the patient.



The bulb was a 30 watt size of frosted glass and the fragments were almost paper thin. It is remarkable that it could be put in the rectum without breaking.

PERIPHERAL VASCULAR DISEASE*

Charles M. Edelen, M. D.

Louisville.

As evidenced by the literature, a serious attempt is being made by the profession to learn the causes of the various phenomena in vascular diseases of the extremities and by treating them intelligently tide many of the people over the acute stages, thereby reducing the incidence of amputation.

A majority of those unfortunate victims of impaired circulation in the extremities are first seen by the general practitioner. If in focusing your attention for the next few minutes on some of the more common peripheral vascular diseases, you will be reminded when doing your next physical examination that it is as important to palpate the pedal as well as the radial arteries, I will feel that I have at least accomplished something.

Government statistics show that there are more than 7,500,000 men and women 65 years of age and older. It is estimated that 10,000,000 people suffer from some type of peripheral vascular disease. Approximately 76 per cent of the admissions to the vascular clinic at the Cincinnati General Hospital are arteriosclerotic. Progressive narrowing of the peripheral vessels by intimal over growths and depositions of fatty and atheromatous plaques in the arterial wall, followed by scar tissue and calcareous deposits occurring usually after the 6th decade gradually impair the blood supply to the extremities. These pathological changes are slow and involve both the major and secondary arterial pathways.

A few of the more common symptoms of this group are: Intolerable rest pain, intermittent claudication, pallor with elevation rubor when dependent, upon healing of wounds or trivial infections about the nails, intolerance to cold, numbness, tingling or burning of the feet, with X-ray evidence of calcification in the vessels or arteriographic studies showing obstruction of the vessels.

The patients with arteriosclerotic vascular occlusions being in the older age groups, naturally, will have many of the complications of old age. The vascular obliteration is slow and insidious, being general and not patchy as in Buergers, so when occlusion does occur there are no channels open for collaterals to carry on.

Thrombo-Angitis Obliterans, or Buergers disease, is an inflammatory condition involving both the arteries and veins, occurring more commonly in males than females and between the ages of 25 and 45. It is characterized by exacerbations and remissions. If the remissions are long enough to allow a sufficient development of collaterals with canalization of thrombi the patient may be carried over the immediate danger of gangrene. Some times the disease takes a more rapid course and the attacks of migratory thrombophlebitis follow one another so closely that little or no collateral circulation develops and gangrene supervenes.

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*Read before the Kentucky State Medical Association, Paducah, October 5, 6, 7, 8, 1936.

The outstanding symptom is pain; ranging in type from a mild discomfort, such as the pain of flat feet or varicose veins to pain of such severity that even morphine will not relieve and amputation will be necessary. The so called pain of intermittent claudication is that pain which follows exercise, being relieved by rest. Rest pain is the pain usually coming on at night in patients free from severe pain during the day because of limited exercise which causes a mild increase in circulation by muscular compression of the large veins. Other symptoms, which were mentioned under arteriosclerosis, such as numbness, coldness, burning or tingling, nonhealing of blisters and pared calluses are also noted in this condition. A great majority of the patients diagnosed as Buergers will turn out to be some form of arteriosclerotic vascular disease.

Raynauds disease is a spastic type of peripheral vascular disease, involving chiefly the small arteries in the extremities. Pulsations in the larger ones being palpable. The attacks are intermittent and may be induced by exposure to cold, fright, anger, worry, trauma or fatigue. The condition is found more often in young females of the neurotic and asthenic types. It occurs more frequently in the upper than in the lower extremities and is characterized by symmetrical dead white fingers or toes, followed by periods of cyanosis, in which it is difficult to induce recovery even in a warm room. Late in the disease the digital arteries show obliterative changes. Painful ulcers may develop at the finger tips, sclerodermatous changes take place in the skin and in the advanced cases terminal dry gangrene may develop.

Erythromelodgia (Weir-Mitchell's Disease) and Scleroderma are less common diseases of the peripheral vessels that we will only memtion in passing.

Tuberculosis and Syphilis have also been reported as causes of disturbed circulation of the extremities which may even result in gangrene.

The occlusive process in diabetes is identical with that of arteriosclerosis except that it occurs approximately ten years earlier.

In general the treatment of peripheral vascular diseases has changed from radicalism to conservatism in the past few years. Bed rest is an essential factor in treating all types of vascular diseases. It is in attention to the minute details of the care of the patients that our hope for success lies. It is easy to treat patients who have had one or more attacks of vascular occlusion with its extreme pain or threatened gangrene.

Years ago Buerger and Allen advocated such measures as the avoidance of cold, exposure, injury, and infection; keeping the skin of the feet in perfect condition; by baths and oils; large fluid intake; use of thyroid extract where indicated and teaching patients the optimum level of circulation.

The following instructions given patients in the Louisville City Hospital for care of the feet are mimeographed and are prepared from an original copy given us by Drs. Herrmann and Reid of Cincinnati.

1. Wash feet each night with neutral (face) soap and warm water.
2. Dry feet with a clean soft rag without rubbing the skin.
3. Apply rubbing alcohol and allow the feet to dry thoroughly, then apply a liberal amount of vaseline or toilet lanolin and gently massage the skin of the feet.
4. Always keep your feet warm. Use woolen socks or wool lined shoes in the winter and white cotton socks in warm weather. Use a clean pair of socks each day.
5. Use loose fitting bed socks instead of hot water bottles, electric heaters or any other form of mechanical heating devices.
6. Wear properly fitted shoes and be particularly careful that they are not too tight. Use shoes made of soft leather and without box toes.
7. Cut your nails only in a very good light and only after your feet have been cleansed thoroughly. Cut toe nails straight across.
8. Do not cut your corns or calluses.
9. Do not wear circular garters.
10. Do not sit with your legs crossed.
11. Do not use strong antiseptic drugs on your feet. Particularly never use tincture of iodine, lysol, creosol or carbolic acid.
12. Go to your doctor at the first sign of a blister, infection of the toes, ingrowing toe nail or trouble with bunions, corns or calluses.
13. Drink at least four quarts of water each day.
14. Eat plenty of green vegetables and fruit in an otherwise well balanced, liberal diet, unless you have been ordered to follow some special regimen.
15. Do not use tobacco in any form.
16. Have some member of your family ex-

amine your feet at least once each week.

17. Carry out your exercises as prescribed by your doctor exactly as you were taught to do them in the clinic. Do them regularly and faithfully.

18. Come to the clinic for your Passive Vascular Exercise treatments as directed.

Mont Reid calls attention to the unnecessary sacrifice of extremities as a result of the old custom of rest and elevation far above the level of optimum circulation. The extremities, so elevated on 3 or 4 pillows, being white and cadaveric. This procedure hastens gangrene. No wonder we had trouble keeping the victims in bed with their feet elevated and as soon as we would turn our backs they would let them hang over the side of the bed, rubbing them in an attempt to relieve the pain of ischemia. The level of optimum circulation varies in each case. It is usually slightly below the heart level and these sufferers can find it rather quickly.

The fluid intake of these patients should be copious and a daily record of the amount should be kept as it is the only sure way to keep it above the specified 4 or 5 quarts.

The removal of all foci is of itself a necessity. The judicious use of thyroid extract, when indicated improves the circulation.

Strict instructions are given in all clinics to abstain from tobacco in any form. It is estimated by Lampson of Boston that one ordinary cigarette weighing about 1 gram contains approximately 20 mg. of nicotine, of which a smoker retains 2 to 3 mg. if he inhales, and he showed in his experiment that there was a decrease in the blood flow to an extremity ranging from 57 to 83 per cent, which lasted for a period of from 40 to 55 minutes. The blood pressure was increased from 10 to 20 points with an increase in the heart rate ranging between 6 to 20 beats per minute. Coller and Maddock report a lowering of the temperature of extremities of from 2 to 5 degrees following smoking. It is important to teach the active vascular exercises of Allen and Buerger in which the extremities are elevated three minutes, allowed to hang over the side of the bed three minutes and placed in the horizontal position three minutes. Heat being applied while in the horizontal position. The entire cycle, requiring about ten minutes, is repeated six times in an hour and three times a day.

Recently Landis and Gibbons and Herrmann and Reid made valuable contributions to the field of peripheral vascular disease with their alternate suction and pressure machines. Reid and Hermann calling theirs ''Pavaex'' a contraction of the three words, passive vascular exercise.

In the time allotted me I have attempted to discuss this subject in only a general manner. The patient with Raynaud's disease not being relieved by the usual measures of avoiding over fatigue, worry, exposure to cold and irritating contacts must seek relief in surgery. A fairly accurate prognosis can be given these patients by estimating, previous to operation, the degree of vasospasm. Better results being obtained if the lower instead of the upper extremities are involved.

The victim of Buerger's disease cannot expect the relief from neurological surgery that one with Raynauds can, as the migratory thrombophlebitis cannot be prevented. There is considerable difference of opinion among authorities as to whether neurosurgery offers any relief. Certainly, however, if the degree of vasospasm is high some improvement can be hoped for. de Takats says that these cases of Buergers showing marked vasospasm are not true Buergers, but should be designated as Mont Reid does, endarteritis obliterans. Improvement in 50 to 60 per cent of the cases of Buergers can be obtained medically by bed rest, injections of typhoid vaccine, intravenous injection of hypertonic saline and abstinence from smoking.

DISCUSSION

R. A. Griswold, Louisville: This extremely important and prevalent condition that Dr. Edelen has described this morning has only recently been intensively studied, and strangely enough it has been studied not by the general practitioner and the internist who should study it, but the surgeon. I think it is perhaps high time that the treatment of this condition was turned back to the internist and the general practitioner, because it is essentially a medical subject.

The high incidence of peripheral vascular disease is astounding. The majority of the cases are arteriosclerotic and they are increasing as the general age average of the country increases. The literature has been confused by a number of proper names and descriptive terms which mean nothing, such as Raynaud's disease, Buerger's disease, erythromelagia, and quite a few others. I think if we got rid of those terms and got to a classification of spastic disease, of organic occlusive disease, and of a mixed type, we would go much further and really begin to understand these conditions.

The spastic condition is the type that is called Raynaud's disease and occurs in young people in the third decade of life. Thrombo-angitis obliterans or Buerger's disease, the mixed type, occurs usually in the thirties and the forties. We see a large number of cases diagnosed Buerger's disease. I think that term has become fashionable and popular, somewhat like vitamins and stream-line automobiles, and is greatly over-used. I think we can say that in no patient in whom the disease begins over forty-five years of age should it be called a Buerger's disease. Ninety-nine out of a hundred of those are pure arteriosclerotics.

The reason I think this condition has been studied more by surgeons than by internists is because in the past these patients have been shunted around until their legs became gangrenous and then they were sent to the surgeon to amputate. Of course every surgeon knows that amputation is not a method of treatment; it is simply a confession of failure.

The point that I should like to bring out is that these patients should be treated by all the means at our command early in the disease before gangrene occurs.

The types of treatment that Dr. Edelen and Dr. Jelsma have outlined should be tried first in the conditions in which they are indicated. The other type of passive vascular exercise, the use of alternating increased and decreased pressure, should be used when indicated, and it is indicated in a large number of these cases and is very effective if you find its indication. There are, however, many patients being treated for flat feet, for varicose veins, and all types of conditions in the passive vascular exercise apparatus which does very little good.

The judicious use of heat is also important. The injudicious use of heat can be very tragic, because these extremities have disturbed sensation, disturbed circulation, and are easily burned. Many legs have been lost by burns from the injudicious use of diathermy and external heat. It should be used sparingly and only in case you can increase the circulation of the extremity at the same time you apply the heat, because heat raises the metabolism of the extremity.

Tuberculous Thrombophlebitis of Lower Extremity.—Altschuler states that in the cases of tuberculosis of veins described it was not a matter of a disease confined to the wall of the vein; the vein was infected by invasion from the surrounding tissues and there were always advanced tuberculous changes, with miliary infection of the viscera. In the author's two cases the organs are not demonstrably diseased. The tissue surrounding the vein was free from infection and only the intima was attacked. He cannot explain the etiology; no port of entry was discovered on the lower leg in spite of most exact interrogation of the patient. The inguinal glands were removed and examined but were not diseased. He believes that tuberculous disease of the veins of the extremities is not rare, and, if so, there is a wide field for research into its causes and its treatment.

SYMPTOMS AND ETIOLOGY OF UPPER URINARY TRACT STONE*

DOUGLAS E. SCOTT, M. D., M. S. (Urol.)

Lexington.

There is every reason to believe that the condition of stone in the kidney has been known from the dawn of civilization. Kidney stones have been found in Egyptian mummies dating to between the years 4800 and 4500 B. C. The symptoms have been described with fair accuracy in the earliest medical writings. Hippocrates, for instance, wrote the following:

"An acute pain is felt in the kidney, the loins, the flank, and testicle of the same side. The patient passes urine often. Little by little, the urine is suppressed. Some gravel passes with the urine. When this gravel passes down the ureter it causes severe pain which ceases when it is expelled."

That was written four centuries before Christ. What then is the present necessity for a discussion of symptoms which have been so long a part of our knowledge? Sufficient justification, can I believe, be found in consideration of the following figures—figures which belong to our own very modern times.

In a recently reported series of 1001 cases of stone in the ureter, the appendix had been previously removed in 226 cases. One case of every five of stone in the ureter has had an appendectomy. Is it necessary to say that the ratio seems suspiciously high?

Putting a little higher magnification on these figures, we find that in cases in which the pain was confined to the right lower quadrant of the abdomen appendectomy had been done in 27 per cent. Granting that many of the operations were for actual appendicitis, the ratio of one appendectomy in less than every four stone cases at least suggests frequent misconception of the diagnosis.

In 16 per cent of the 1001 cases of ureteral stone the pain was entirely epigastric, and a diagnosis of cholecystitis had been made. In 1.7 per cent a diagnosis of peptic ulcer had been made because of the type of pain. In all of these removal of the stone from the ureter relieved the symptoms.

With the modern means at our disposal it can not be said that the diagnosis of stone in the upper urinary tract is a matter of difficulty. Actually, the X-ray, the cystoscope, and present methods of making pyelograms, make the diagnosis one of most refined accuracy. The failures suggested by the above figures must then be our failures to suspect urinary tract stone.

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*Read before the Kentucky State Medical Association, Paducah, October 5, 6, 7, 8, 1936.

Another reason for discussing what would seem to be a timeworn subject is to be found in the fact that in one-third of cases in which operation is necessary for stone, nephrectomy has to be performed. That so many kidneys should be permitted to go on to destruction would seem to be a responsibility that is ours. We have failed to make the diagnosis, or having made it we have advised our patients to wait until they are having "more trouble" before doing anything about it, or in treating we have failed to remove all the stone fragments present, and the kidney has been subsequently destroyed by these.

Actually, the very exactness of the diagnosis of stone has served to expand greatly the known field of symptoms of the disorder. X-rays have shown us stones where we did not suspect them, and in this way we have learned symptoms that were new to us. Our responsibility in suspecting stone then, must correspondingly widen.

When we come to analyze statistically the symptoms caused by stones, we find that such and such per cent of stones cause pain, such and such per cent cause haematuria, and a certain per cent cause micturition troubles, pyuria, chills, or total anuria, or gastro-intestinal disturbances, the main point of such percentages being that there is no symptom applicable to even nearly all cases. Bugbee makes the remark that there is no definite history, and no definite sign or symptom which points directly to renal calculus. To illustrate, one might suppose the type of pain commonly referred to as renal colic would in the great majority of cases point to stone. Yet Hugh Cabot in reviewing 100 cases of renal colic found stone to be the cause in only 10 per cent.

Since symptoms seem so often to have misled, let us consider the problem from a different angle. Our conception of symptoms might be more secure if we could understand the underlying etiology and pathology. What conditions are necessary to form a stone? May I suggest that it is not yet permitted us to know the whole secret, but let us see how closely we may have approached it.

The great majority of urinary calculi are composed of crystals of substances normally found in the urine, namely, these three: uric acid, calcium oxalate, phosphates. Other substances than these form stones but their occurrence is so uncommon that we can consider them rare. Thus, stones have been formed of nothing but bacteria. There is the special case of the formation of stones from cystin. Cystin is a product of a disordered metabolism of protein, a disorder which seems to run in families. The victim of cystinuria can be expected to maintain the condition throughout life if untreated, and his cystin stones keep recurring with disheartening rapidity. Fortunately something can be done about it. Cystin crystals will not form in an alkaline urine, and the protein intake can be effectively curtailed. Another special case which I will ask you to immediately forget is the gall stone reported by Faber which wandered into a Meckel's diverticulum, ulcerated through into a patent urachus and thence to the bladder.

But let us consider the common offending substances. They are normal constituents of the urine. If they are to form stones they must first crystalize out of the urine, and it would seem necessary that there be some place for the crystals to rest long enough to agglutinate. Such a resting place would seem to be afforded in the downward directed lowest calyx of the kidney pelvis. And there is an abundance of evidence that the majority of kidney stones are formed here. Please note that urinary obstruction and urinary stasis is not necessary but stasis of crystals only. I believe it is true that the majority of stones commence their formation in urinary tracts which are normal in form and without inflammation. However, should urinary stasis occur from any cause whatever, crystals of course, have an excellent opportunity to come to rest. Thus, the readiness of stone formation with prostatic obstruction, and with urethral stricture. Also in fracture cases confined for weeks on their backs stone formation is invited by the slowing of the urinary drainage due to posture.

Much less simple is an explanation for the other factor, why crystalization should occur. Uric acid is an end product of nucleoprotein metabolism. About one gram of it is excreted daily in the urine. It is practically insoluble in water, yet in urine it is held in a hypertonic solution. And a great excess of it can be so held. A diet of nucleoproteins may increase the uric acid content of the urine but does not necessarily result in crystal formation. Moreover, a starvation diet will produce a urine with a hypertonic solution of uric acid. Variations of nucleoprotein intake would seem not a factor of prime importance to crystal formation. Joly's explanation that the uric acid is held in its high solution by the protective action of colloids in the urine is supported by good experimental work. The colloids are in the urine, but where they originate seems speculative.

The phosphates are precipitated in alkaline urine. It is a curious fact that the amount of phosphates present in many cases of so-called "phosphaturia" is apt to be actually less than the amount in solution in normal urine. It is not often that the phosphates are prime stone formers, they are usually secondary additions. In the case of triple phosphates there is not enough in normal urine to form a deposit and they always denote the presence of infection with the urea splitting organisms.

With calcium oxalate the situation is much the same as with uric acid. It is quite insoluble in water, yet is held in solution in urine. It is only necessary for something to disturb this hypertonic solution—some factor causing the colloids to lose their protective action maybe, for the crystals of uric acid or of calcium oxalate to be thrown down. And it is at this point that our pretty reasoning hesitates—just what those factors are, and how they act.

That is in brief outline, our knowledge, or lack of it, of the physico-chemical conditions necessary to produce stone. What other influencing factors are there on stone formation?

There is no proven hereditary tendency. In the few cases in which stones have occurred in many members of the same family other factors have not been ruled out, similarity of diet habits, for instance.

In the United States it seems that the negro is less liable to stone formation than the white population, though that too, may well be debated. The slight preponderance of stone occurrence in males may possibly be due to the increased opportunities which the male urinary tract has to become obstructed. It is worth our notice that in children the occurrence is equal between boys and girls. From childhood to about 40 years of age, the occurrence is more common in females, and after 40, more common in males. These sex variations would seem to correspond with the periods of likelihood of obstruction to the urinary tract.

In certain areas of the Near East where populations are mixed, Christians seem more susceptible than either Jews or Mohammedans. One's religion then would seem a factor not to be disregarded.

When it comes to geographical distribution we find that there are certain districts of England which have a reputation for kidney stone formation. Curiously enough, Holland has been and Switzerland has never been a stone forming area. Mesopotamia, the northern provinces of India, and South China are historic stone forming regions.

None of these factors however, seem to have any clear, or direct bearing on the problem why urates, and calcium oxalate crystals are precipitated from their hypertonic solutions in the urine.

Of more immediate interest in this respect are the results of those workers who have attacked the problem of focal infection in its relation to kidney stone formation, and also recent conceptions of the relation of diet to the condition. Rosenow and Meisser obtained cultures of a streptococcus from the urine of a patient with kidney stone. They then sealed these organisms into devitalized root cavities of teeth in dogs. Kidney stones developed in 5 of 6 dogs so treated. The 6th dog died early, and the animals used as controls did not develop stones. It is of interest that Rosenow and Meisser do not attribute this stone formation to production of inflammation in the urinary tract. Actual urinary tract infection in the animals, they say was negligible. The result, they attribute to the effect of bacterial toxins. We assume that in some way the bacterial toxins interfere with the solution of stone forming substances in the urine, influencing either quantitatively or qualitatively the colloid protective action, or whatever the factor is.

Whether or not we accept the work of Rosenow and Meisser, at least it has not been disproven, and there are convincing case reports where removal of definite foci of infection has been followed by the cessation of stone formation in patients who had suffered from recurring stone. Braasch reports the case of a physician who had been passing a series of fifteen or twenty stones at intervals of one to three months. A search for a focus of infection disclosed a periapical infection of a number of teeth with a streptococcus. These teeth were removed, and no stones recurred for a period of one year. Stones then began to recur, and further search found the remaining teeth to have become infected. These were then removed, and the patient had no further stone formation for a period of two years, or up until the time the report was made.

In the matter of the relation of diet to kidney stone formation it is possible we are at last making some headway. So many of our ideas in this matter have been on wrong basis, or on no basis whatever. The number of people right now drinking only distilled water for fear their kidneys will look like the lining of an old tea kettle is amazing. It is of interest that these people are by no means all among the laity. It has been pointed out in this connection, that in Switzerland and many other parts of the earth, where limestone is common, and water hard, urinary stones are rare. In many known stone forming districts, water is soft.

In the stone forming area of India the vast majority of stones are of uric acid. Yet the native diet is practically free of anything which forms uric acid. As I have already pointed out precipitation of the stone forming substances in the urine is dependent on other factors than their amount in the solution. It seems likely that our concern over uric acid and calcium oxalate intake in the diet has been misdirected. Monotony of diet rather than the type seems to be a closer explanation.

It is of interest that the diet of the natives of the stone forming area of India is deficient in Vitamin A. The work of various experimenters in recent years has shown a very striking occurrence of renal stones in animals kept on diets deficient in Vitamin A. These experiments have been largely with rats and it is known that rats, particularly certain strains, are apt to be obliging about forming stones, in any case. However, the work has been sufficiently convincing to make many clinicians add cod liver oil to their armamentarium of stone prevention. Higgins successful clinical application of diet factors to treatment has been a valuable demonstration and is added evidence that diet may well be a factor in stone formation.

Kidney stone is too dramatic an addition to the growing list of Vitamin deficiency diseases not to attract considerable further investigation, and I believe we can expect more and interesting reports along this line.

Recent reliable reports indicate another significant factor. Hyperparathyroidism has been proven in four to five per cent of a large series of cases of renal stone. Turning the figures around, renal stone may be expected in 70 per cent of cases of hyperparathyroidism. Here then is one more influence. Where it fits in to the whole puzzle much further work must show us. Is this hormone influence quantitative, qualitative, or both? There is something to which any one might have an opportunity to contribute.

With this rather hurried review of the types of stone, and their etiological background let us consider the symptoms which stone produce.

First—pain; there are three general classes.

A. The type described as renal colic.

B. Pressure pain.

C. Various types of referred pains.

Renal colic is of course, the classical type. I need not describe it further. I would like to point out that the differentiation between stone in the ureter and stone in the kidney pelvis on the basis of the point of maximum intensity of the pain is so unreliable as to be of little value. Stones in the kidney pelvis may give quite typical ureteral radiation. Joly says 35 per cent of them do. They can also give marked micturition symptoms. May I say emphatically that the character of the colic and location of the pain in the vast majority of cases give no indication and bear no relation to the position of the stone. It is of interest that in about 3 per cent of cases the radiation of the colic pain is reversed, that is, from below upward.

It is worth our while to remember in considering renal colic that it is after all a symptom of obstruction only, and that there are many other sources of obstruction in the lumen of the ureter, in its wall or from pressure on the ureter. Remember Cabot's observation that only 10 of 100 cases of renal colic were caused by stone. The second type of pain, that of a fixed, dull, aching character, may be conceived of as due to pressure from a stone filling a cavity in which it rests. Generally speaking, a fixed pain means a fixed stone, while colic means a movable one, though not necessarily one that will pass.

Both these types of pain may be referred to various localities and it is with these that diagnosis becomes confusing. The pain may be referred to various parts of the abdomen, or may occur as an unlocalized abdominal distress. There is disagreement on whether pain can radiate across the mid-line. There is still more disagreement on the occurrence of the so-called reno-renal reflex pain—that is, all the pain occurring in the opposite kidney. However, Caulk reports an apparently authentic case, and refers to others. There is the opinion that when this occurs there is disease in the other kidney, also it is possible that a kidney undergoing compensatory hypertrophy may be painful.

In a fair percentage of cases pain may be entirely absent. In such cases enormously large stones are frequent. If there is any relation whatever between the degree of pain, and the size of the stone, it would seem to be an inverse one. Cabot remarks that little stones like little dogs make most noise. However, cases of small, smooth, uric acid stones passing down the ureter with little or no pain are on record.

There is some relation between pain and the type of stone. The hard cornered irregular oxalate stone is notoriously a pain producer, as well as a blood producer.

With regard to haematuria my own impression is, that microscopic blood may be a more important lead to the diagnosis than gross haematuria. However, gross haematuria may occasionally be the outstanding symptom. Aggravation of haematuria by exercise may of course be expected. Clots are very rare. If present, they are of the tea leaf variety. Large blood clots are really more characteristic of tumor.

In addition to haematuria, micturition trouble, and the various types of pain, manifestation of stone may occur in other ways. One is the occurrence of a sudden, and total anuria. The academic debate over just how the urinary secretion becomes inhibited when one of the kidneys present is sound, and unobstructed, is lively and interesting, but too long for our consideration here.

The onset of calculus anuria may or may not be accompanied by pain. If it is due entirely to obstruction it may persist, and for a variable period up to ten or sixteen days or in some cases even longer, there may be no symptoms of uremia. However, when uremic manifestations appear, they are sudden and severe, and there is no way of predicting at what hour they will develop.

When infection is associated with stone the character of the symptoms is somewhat changed. Pain is probably less severe in infected cases. This may be because of an inflammatory atony of the ureter or pelvis. Haematuria is less common in infected cases. It will be recalled that in cases in which inflammation is associated the urine is usually alkaline, and as a result the stones are likely to be formed from phosphates. Such calculi are generally larger, smoother, often softer and of more placid disposition than the violent tempered little oxalate or uric acid stone.

In infected cases there will be associated general and local symptoms of infection.

One interesting type of fever which occurs is that which rises suddenly from normal with the occurrence of the colic, and may go to 104 degrees or higher and falls rapidly again. Such an occurrence can be explained reasonably, I think, on the basis of pyelovenous backflow of urine. It is a different picture from the recurring rigors which indicate a deep kidney infection.

Other reflex phenomena occurring with stones in addition to pain and anuria are nausea, vomiting, all the symptoms of shock, muscle rigidity, constipation, etc. These reflex manifestations have aided the pain of calculus to simulate a long list which includes most of the pain-producing disorders. It would be tiresome to go into a differential diagnosis of the whole list.

The purpose of my remarks is rather that we may become more "kidney stone conscious," so that when faced with abdominal pain not absolutely typical of disease in gall bladder, appendix, or stomach, or any indefinite abdominal pain we will think of the possibility of stone and make use of the diagnostic facilities which we now have; that we may have this same attitude when pus, or blood appears in the urine, or when there is a history of blood in the urine. When we come to feel that it is as inexcusable not to make use of the X-ray in these conditions as it is in cases of fracture there will be more kidneys saved, as well as their owners.

Also, may I suggest that we can with profit be more curious concerning types of kidney stones. The laboratory identification of the types is not too difficult. With the cystin, and triple phosphate stones something definite can be done by local treatment to prevent recurrence. With the commoner forms, there are appearing out of the haze of mystery surrounding their formation, at least two contributing influences which are assuming definiteness and practical value, namely the factors of focal infection, and probably dietary deficiency. Kidney stone we must regard as a symptom of a disease, the treatment of which is not ended with the removal of the stone.

DISCUSSION

J. Andrew Bowen, Louisville: It is always a most difficult task to present a reasonable and logical paper on a subject so rich in theory and so poor in fundamental facts as that of kidney stones. The essayist has done extremely well, I think, in handling this matter and has succeeded in including practically all of the important factors involved, leaving for one who discusses his paper only the choice of a summary or the picking of one or the other of the theories or facts for greater elucidation.

In the diagnosis of kidney stone, including, I suppose, ureteral stones as well, I am somewhat surprised at the figures presented in support of misconception. You realize that if we take these figures seriously we must believe that almost 50 per cent of such cases are thought to be and treated for some other condition. Frankly I am not inclined to give full credence to such a figure as this, because I believe that in the majority of cases the symptoms complex as set forth by Hippocrates is still to be found, and when found can hardly be taken for anything except difficulty in the urinary tract. With this lead it would indeed be a foolish person who would not have a more detailed examination of the urinary tract made.

The statement that in all kidneys operated for stones one-third must be removed may also be somewhat misleading. Whether or not a kidney is removed is a matter of the operator's judgment based upon a number of factors. The first of these is probably the actual appearance of the kidney substance when seen, the second the age and condition of the patient, third the amount of damage it is necessary to do the kidney in order to remove the stone, then follows a list including the condition of the opposite kidney, the individual and combined secreting power of the kidneys, and as a minor consideration but in itself sometimes of great importance, the question whether the patient is willing to lose the kidney involved or whether he is willing to undergo the prolonged convalescence necessary to bring back to a reasonable function a distorted fibrotic shell. So you see that where one operator will remove, another will save, and having saved is always happy to relate that an apparent hopeless mass at operation has finally revived to a point of functioning capacity sometimes compatible with life under necessity.

Further considerations of the symptoms of stones bring out the fact that the moving stone is by far the most actively productive in this respect, but the contrary is not necessarily true. I believe that there are very few silent stones—surprise stones there may be—but if the patient is carefully questioned or if the urine is carefully examined, symptoms and findings will both become apparent. The responsibility then of so-called large silent stones is divided between the patient and his physician and rests most often I think upon the patient himself.

In the discussion of the etiology of stones so many factors are to be considered as to make the subject almost confusing. With the exception of cystine, all the salts making up stones are normally present in urine in greater or lesser amounts, but are held in equilibrium through colloidal action. Cystine stones are a rare finding, and rarer still are so-called stones made up of a coagulum of bacteria and other organic substances, epithelial cells, cellular debris and colloidal masses, and in one authentic case at least a stone composed entirely of aluminum phosphate, a substance entirely foreign to the body metabolism.

The explanation of stone formation then rests upon one factor, and that is the disturbance of balance between salts and colloid, which disturbance may be due to local disease such as obstruction as the result of stricture or kinking, or to a general metabolic disease such as a parathyroid deficiency, upsetting calcium balance, or the elaboration of a toxic product having a selective action upon the colloidal balance of the urine, or to external factors entirely, such as poor diet or deficiency or lack of proper vitamin intake, causing primarily a metabolic disturbance, resulting finally in the precipitation of salts from the urine in such amounts as to form stones. As experimental work goes on this list of factors will probably grow, but the fundamental fact of disturbance of balance in the urine itself will remain.

Fortunately, natural impulses take care of the greater number of stones; a further number may be removed by manipulation through the cystoscope; still a number are seen in time to be removed without total destruction of the involved kidney, leaving of all the cases only a small percentage in which the kidneys are destroyed, or in which stones recur. The natural elimination of a stone or its removal through minor or major procedures is only the first step in treatment and prevention of a return of difficulty. All such kidneys should be kept clean by repeated catheter lavage and drainage at regular intervals. Strictures and kinks must be treated according to judgment, foci of infection when found must be treated or removed, the urine must be brought to the proper state of reaction through diet or the administration of drugs, and the patient must be kept in the best state of health possible. It is true that there still remains a lot to be learned about the etiology of stones, but in cases of stone already formed, our results will steadily improve if the present knowledge is studied and carefully utilized.

Gaithel L. Simpson, Greenville: I know of no subject at present that is receiving more attention in the large clinics and in some of the research centers than that of kidney stones. As Dr. Scott pointed out, we have known something about kidney stones for a long time. The interesting point, to my way of thinking, is that we are just finding out that kidney stone is not a disease entity, it is a symptom—a symptom of something about which we know very little.

There are a number of factors involved, as you all know, infection, the ratio of minerals, and a great many other things which have been brought forward as etiological factors, none of which has been definitely proved or accepted as yet. Dr. Higgins at the Crile Clinic is doing some very interesting work on this subject at the present time.

I think the association of urology, which is not necessarily correct, with the different venereal diseases makes the subject very unattractive to the average student and a great many interns. Those men go out in general practice with a distaste for urology and pay very little attention to the urological patients. I think that possibly has a great deal to do with the large number of patients with kidney lesions being permitted to progress to the point where they require nephrectomy to relieve their renal symptoms. As Dr. Scott pointed out, anywhere from twenty-five to fifty per cent of the patients who have kidney lesions, particularly on the right side, have some surgery done in the right abdomen that does not relieve the symptoms.

In the typical case, the patient has the classical signs and symptoms, but only a small percentage present those typical findings.

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NEXT MEETING BEREA, SEPTEMBER 6-9

COUNTY SOCIETY REPORTS

Grant: The Grant County Medical Society met in regular session December 16, at the Donald Hotel in Williamstown, with the following present:

Dr. and Mrs. N. H. Ellis, Dr. and Mrs. J. W. Abernathy, Dr. and Mrs. C. M. Eckler, Mrs. R. E. Kinsey, Dr. and Mrs. J. T. Stephenson, Dr. and Mrs. A. P. Rich, Mrs. J. L. Price, Miss Grace Wells, County Health Nurse, Dr. and Mrs. J. T. Davis, Dr. and Mrs. J. D. George, Dr. and Mrs. A. D. Blaine, Dr. and Mrs. P. E. Harper, Dr. and Mrs. J. J. Marshall, Dr. and Mrs. Harry F. Mann, Dr. and Mrs. C. A. Eckler, and Dr. and Mrs. L. C. Hafer of Covington.

This was one of the most enjoyable meetings. we have ever held. It was in the form of a banquet in the spacious dining room of the hotel and delightfully decorated for the occasion. The doctors' wives enjoyed this pleasure as well as the doctors.

We opened the occasion by all singing "America" after which the invocation was given by Dr. C. A. Eckler and dinner served. This was a sumptuous Christmas dinner and was superintended by Mrs. Dr. R. E. Kinsey and Mrs. C. M. Eckler who know just how to tempt the appetite. I am quite sure, from expressions I have heard, this could not have been served in a more elegant manner.

After our repast we enjoyed some Christmas Carols. "Jingle Bells" sung by the doctors of the society, and you should have heard those birds sing. We had a quartet composed of Dr. Ellis, Dr. Harper, Mrs. A. P. Rich and Mrs. R. E. Kinsey, who sang "Silent Night" which was worth while our coming.

Our retiring president, Dr. N. H. Ellis delivered his address which was witty, with some added puns. Doctor's talk was excellent and showed the Christmas spirit. He has made us one of the best presidents we have ever had.

The next speaker of the evening was Dr. L. C. Hafer of Covington, a specialist in diseases of children and an acquaintance of the secretary for thirty-eight years, and one of the very best friends I have ever had. He is now councilor of this district and was an invited guest with his good wife to deliver an address before the meeting at this time. His subject was "Diet." Doctor handled that in a masterly way, as only a student or dietitian could. He dealt with just the forms of food which were interesting to use as country practitioners, mentioning these radio advertised foods such as; Ovaltine, Bullion cubes, Malted Milk, Valentine's Meat Juice, and things that do not compare, in a way, with our good cow milk. Dr. Hafer's discourse was one of the best we have ever had and we certainly thank him for the excellent treat he gave us.

We now took up the business of the evening. Minutes were read and approved, correspondence recorded and new business of election of officers entered in to. By motion and second Dr. C. A. Eckler was unanimously elected president of the society for the coming year. By motion and second Dr. J. T. Davis was unanimously re-elected vice-president. By motion and second Dr. P. E. Harper was unanimously elected secretary and treasurer for the coming year.

At this time Dr. J. J. Marshall arose and read from the Journal the excellent report Dr. C. M. Eckler had made as a delegate to our state meeting representing Grant County Medical Society at its last session. Dr. Marshall again nominated Dr. C. M. Eckler as a delegate for 1937. This was seconded and he was unanimously elected as a delegate. Motion made and seconded that Dr. J. J. Marshall be elected as alternate. This was made unanimous.

Program committee for the next year is the incoming president and Dr. N. H. Ellis.

We were glad to have with us Mrs. J. L. Price and while we enjoyed her company we could not help but miss our beloved brother Dr. J. L. Price who departed this life last spring.

Now we wish to thank the two young ladies who served us at the banquet and the hotel for its courteous treatment.

Just about the time we were about to depart, Santa Claus appeared and presents appropriate for the occasion were distributed to all present. After singing "Old Kentucky Home" we adjourned to meet the third Wednesday in January.

C. A. ECKLER, Secretary.

Fifth District: The regular meeting of the Fifth District Medical Association was held at the Brown Hotel in Louisville on Nov. 24, 1936. This is the 6th year of the organization and the meeting was attended by a large number of physicians of the 5th District which comprises the Counties of Franklin, Owen, Gallatin, Carroll, Henry, Oldham, Jefferson, Shelby and Trimble.

Dr. Beetem, President of the Association and J. T. Minish being absent, J. B. Lukin, newly elected Councilor for the District, opened and presided at the meeting; our two former Councilors, W. E. Gardner and C. W. Dowden being present added much to the success of the meeting.

Unfortunately I had no stenographer to take the minutes of the meeting nor did I get a registration of the physicians present, which I regret because, of all the successful meetings we have had, I think this was the most interesting; the discussions of the subjects were entered into by a large number of the physicians present, there being no one especially designated to discuss the papers, therefore we had an expression of opinions and experiences of many doctors.

The following program was presented and each subject was discussed by any one present who desired to express their opinion.

The first paper on the program was given by Dr. Frederick Spiedel, the subject: Coronary Occlusions. This proved to be a very interesting subject, especially on account of its frequent occurrence in our high pressure business and professional men. The discussion was opened by J. M. Kinsman and was thoroughly discussed by Drs. W. B. Troutman, C. W. Dowden, South, Purdy and a number of others. Any physician who missed this has missed something worth while in his practice.

The next paper on the program was by Dr. P. F. Barbour, subject: Appendicitis in Children.

A highly instructive paper for the general practitioner. The discussion was opened by J. H. Pritchett and was generally discussed and blood examinations in the disease discussed by Will Allen.

Meeting was adjourned for luncheon, held in the roof garden of the hotel.

Meeting resumed at 2 P. M. The first paper was by Dr. J. Duffy Hancock on Acute Gall Bladder and was discussed by Drs. Wallace Frank, Donaldson, Shacklette and others. The next paper was by Dr. E. K. Martin of Frankfort, subject: Extra Uterine Pregnancy. Discussion by Drs. Wallace Frank, Wilmouth, Shacklette and others.

Next on the program was the election of officers for the ensuing year. On motion Allen Donaldson of Carroll County was elected President, E. E. Bickers of Henry County, Vice-President and Owen Carroll of Henry County, Secretary.

The next meeting will be held in Carrollton, during the month of May, 1937 and, from past experience, we know it will be an enjoyable day, a beautiful drive from every section and it is to be hoped that we will have a large attendance. The date of the meeting will be set and all the physicians notified in ample time.

OWEN CARROL, Secretary.

Whitley: The annual meeting of the Whitley County Medical Society was held in Corbin, December 18. There were interesting talks and discussions by Drs. Terrell, Ballard and Richmond after which the following officers were elected for the ensuing year: L. L. Terrell, President; T. J. Ballard, Vice-President; C. A. Moss, Secretary and Treasurer; Board of Censors, L. B. Croley, W. M. Cox, L. S. Siler; Delegate, C. A. Moss and Alternate, O. L. Richmond.

C. A MOSS, Secretary.

Harrison: The Harrison County Medical Society held its annual meeting at Hotel Harrison December 7, 1936.

Members and visitors present were: Drs. H. G. Reynolds, president-elect of the State Medical Association; Joe and Ed Northcutt, Ryan, Hisel, Bach, Naper, Hafer, Housing, Vesper, Vandermark and Brown, Campbell-Kenton Societies; Drs. Richard McMurtry, Falmouth; Daugherty and Orr, Paris; Brumback, Todd, Moody, Ross, Wells, Martin, Blount, Swinford, Wyles, N. W. Moore, Rees, McIlvain, McNeely, Smiser, W. B. Moore, McDowell and Midden.

The meeting was called to order by the president. The reading of the minutes of the last meeting omitted.

The nominating committee reported—for president, Josephus Martin; vice-president, M. J. McNeely; secretary-treasurer, W. B. Moore; censor, J. M. Rees.

On motion these nominees were unanimously elected.

After dinner talks were made by H. G. Reynolds, Joe Northcutt, and Hafer.

The meeting adjourned.

W. B. MOORE, Secretary.

Letcher: The Letcher County Medical Society met for a short session in the Health Department Office on Friday, January 15, at 6:30 p. m. A quorum was present, and due to the absence of the President, C. M. Bentley, Neon, the members unanimously appointed Owen Pigman as temporary Chairman. The purpose of this short meeting was to elect officers for the year of 1937. The following physicians were unanimously elected by the society:

President..............J. E. Stanfill, Jenkins
Vice-President ......T. R. Collier, Whitesburg
Secretary-Treasurer.R. Dow Collins, Whitesburg

The society voted to continue the regular meeting date as the last Tuesday night in each month. The members adjourned to the social room of the Presbyterian Church here in Whitesburg where many of the doctors' wives and guests were waiting for the banquet and the regular program.

At 7 P. M. we all sat down around tables that were soon to be laden with the choicest of good eats. The following named persons were present at this annual gathering:

Dr. and Mrs. B. C. Bach, Whitesburg; Dr. and Mrs. Arthur Bach, Lexington; Dr. and Mrs. J. E. Crawford, Whitesburg; Dr. and Mrs. Noah H. Short, Norton, Va.; Miss Schumate (niece of Dr. Short) Norton, Va.; Dr. and Mrs. J. E. Stanfill, Jenkins; Dr. and Mrs. P. E. Sloan, Whitesburg; Dr. G. D. Ison, Blackey; Dr. Owen Pigman, Farraday; Dr. T. R. Collier, Whitesburg; Dr. and Mrs. C. M. Bentley, Neon; Dr. John Bentley, Neon; Dr. T. M. Radcliffe, Kona; Dr. H. I. Biermann, Pikeville; Mr. John Yost, Banker, Pikeville; Dr. Boze Adkins, Whitesburg; Prof. and Mrs. W. L. Cooper, Blackey; Prof. and Mrs. C. V. Snapp, Jenkins; Mr. and Mrs. Zack Adams, McRoberts; Miss Stella Kidd, P. H. N., Whitesburg; Miss Tempa Howell, P. H. N., Whitesburg; Miss Alta B. Logan, Health Department Secretary, Whitesburg; Mr. J. Crook, Editor of Mountain Eagle, Whitesburg; Mr. Doyle Hogg, Clerk, Whitesburg; Miss Maryland Holbrook, Neon; Rev. O. V. Caudill, Whitesburg; Mr. J. Weaverling, Technician; Jenkins; Miss Maggie Ashworth, Superintendent of Nurses, Jenkins; Dr. and Mrs. R. Dow Collins, Whitesburg.

While we were awaiting the much expected and savory food each person with his address and occupation was introduced by the person sitting on his left.

After partaking of one of the best meals that has been our pleasure to eat in the past many months, the following program was rendered: Hypertensive Heart Disease, Arthur Bach, Lexington, this paper was both interesting as well as educational. Mastoiditis, Noah Short, Norton, Va. Short impromptu talks by Professor Cooper, Professor Snapp, Dr. Biermann, Editor Crook, and Rev. O. V. Caudill. Banking by Mr. John M. Yost. Mr. Yost's talk was one of the most humorous and enjoyable that we have heard in a long, long time: his many jokes kept the audience laughing the rest of the evening. Everyone seemed very delighted in all the speeches and were greatly pleased with the meal served. Those who have been attending this annual meeting from year to year stated that it was one of the best we have ever had. At 10 P. M. the meeting adjourned.

R. D. COLLINS, Secretary

Fayette: At the annual meeting of the Fayette County Medical Society C. N. Kavanaugh was elected president, succeeding T. M. Marks. The other officers were as follows: F. M. Massie, Vice President; John Harvey, Secretary-Treasurer; J. W. Scott, Censor; S. M. Marks and E. B. Bradley, Delegates.

JOHN HARVEY, Secretary.

Harlan: At the regular meeting of the Harlan County Medical Society December 19, the following officers were elected:

President, H. C. Burkhart, Three Point; Vice-President, E. H. Miller, Harlan; Secretary and Treasurer, C. M. Blanton, Harlan.

Our regular meeting third Saturday in each month at seven o'clock p. m.

C. M. BLANTON, Secretary.

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*Frazer, J. G.: The Golden Bough, vol. 1, New York, Macmillan & Co., 1923

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Vitamin C intake of this order of magnitude prevents the development of clinical scurvy, however, it is probably inadequate for optimum nutrition. Clear cut cases of scurvy seldom are seen in this country although some authorities believe that symptoms of a mild deficiency of vitamin C are not uncommon (2).

Referring to nutritional deficiency diseases in general it has been said that. "Almost every tissue in the body may be affected by a deficiency in a food factor" (3).

The tissues generally recognized as affected by deficiency of vitamin C are the endothelium of the blood vessels and the teeth. It has been suggested that to prevent the development of subclinical symptoms, a daily intake of 380 to 540 International units of vitamin C is required for a 130 pound adult (4).

Thus it would appear that the optimum intake of vitamin C is at least twice the amount required to protect against scurvy.

Data recently published demonstrate that the vitamin C content of human milk is dependent upon the vitamin C content of the maternal diet (5).

Hence when the diet of the lactating mother is low in vitamin C, this factor is also deficient in the milk.

The League of Nations Technical Commission recommends an intake of over 500 International units per day during pregnancy and lactation (6).

The inclusion in the diet of liberal quantities of fruits and vegetables, prepared in such a manner as to retain a major portion of the original vitamin C content, may be relied upon to supply the need for this vitamin. The value of commercially canned foods as anti-scorbutics has been repeatedly demonstrated during the past decade (7).

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(1) 1934-35. Am. Pub. Health Assn. Year Book. Page 71

(2) 1933. Chemistry of Food and Nutrition. H. C. Sherman. 4th Ed. Page 421 MacMillan, New York

(3) 1936. J. Am. Med. Assn. 106, 261

(4) 1934. Nature 134, 569

(5) 1936. J. Nutrition 11, 599

(6) 1936. League of Nations Report on Physiological Bases of Nutrition, League of Nations Publication Department, Geneva.

(7) a. 1925. Ind. Eng. Chem. 17, 69
b. 1928. Ibid. 20, 202
c. 1933. Ibid. 25, 682

(8) a. 1935. J. Nutrition 9, 667
b. 1936. Ibid. 11, 383
c. 1936. Ibid. 12, 405

This is the twenty-second in a series of monthly articles, which will summarize, for your convenience, the conclusions about canned foods which authorities in nutritional research have reached. We want to make this series valuable to you, and so we ask your help. Will you tell us on a post card addressed to the American Can Company, New York, N. Y., what phases of canned foods knowledge are of greatest interest to you? Your suggestions will determine the subject matter of future articles.

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CALENDAR OF COUNTY SOCIETY MEETINGS

COUNTY	SECRETARY	RESIDENCE	DATE
Adair	N. A. Mercer	Columbia	March 3
Allen	A. O. Miller	Petroleum	March 24
Anderson	J. B. Lyen	Lawrenceburg	March 1
Ballard	F. H. Russell	Wickliffe	March 10
Barren	Paul S. York	Glasgow	March 17
Bath	H. S. Gilmore	Owingsville	March 8
Bell	R. F. Porter	Middlesboro	March 12
Boone	R. E. Ryle	Walton	March 18
Bourbon	W. B. Hopkins	Paris	March 17
Boyd	C. B. Daniels	Ashland	March 2
Boyle	P. C. Sanders	Danville	March 16
Bracken	J. M. Stevenson	Brooksville	March 1
Breathitt	Frank K. Sewell	Jackson	March 16
Breckinridge	J. E. Kincheloe	Hardinsburg	March 11
Bullitt	S. H. Ridgeway	Shepherdsville	
Butler	G. E. Embry	Morgantown	March 3
Caldwell	W. L. Cash	Princeton	March 2
Calloway	Hugh L. Houston	Murray	March 4
Campbell-Kenton	C. A. Morris	Covington	March 4-18
Carlisle	J. F. Dunn	Arlington	March 2
Carroll	J. M. Ryan	Carrollton	
Carter	W. S. Hawn	Grayson	March 9
Casey	William J. Sweeney	Liberty	March 25
Christian	M. A. Gilmore	Hopkinsville	March 16
Clark	R. E. Strode	Winchester	March 19
Clay	J. L. Anderson	Manchester	March
Clinton	S. F. Stephenson	Albany	March 20
Crittenden	C. G. Moreland	Marion	March 8
Cumberland	W. F. Owsley	Burkesville	March 3
Daviess	W. H. Parker	Owensboro	March 9-23
Elliott	R. Eugene Wehr	Sandy Hook	
Estill	Tracy Wallace	Irvine	March 10
Fayette	John Harvey	Lexington	March 9
Fleming	C. W. Christine	Flemingsburg	March 10
Floyd	J. G. Archer	Prestonsburg	March 31
Franklin	Grace R. Snyder	Frankfort	March 7
Fulton	M. W. Haws	Fulton	March 13
Gallatin	J. M. Stallard	Sparta	March 21
Garrard	J. E. Edwards	Lancaster	March 21
Grant	C. A. Eckler	Dry Ridge	March 20
Graves	H. H. Hunt	Mayfield	March 5
Grayson			
Green	S. J. Simmons	Greensburg	March 4
Greenup			March 8
Hancock	F. M. Griffin	Hawesville	March 4
Hardin	D. E. McClure	Elizabethtown	March 14
Harlan	C. M. Blanton	Harlan	March 16
Harrison	W. B. Moore	Cynthiana	March 4
Hart	S. F. Richardson	Munfordsville	March 5
Henderson	Walter O'Nan	Henderson	March 11-25
Henry	Owen Carroll	New Castle	March 25
Hickman	Charles Hunt	Clinton	March 7
Hopkins	David L. Salmon	Madisonville	March 7
Jackson			
Jefferson	Arthur T. Hurst	Louisville	March 4-18
Jessamine	J. A. Van Arsdall	Nicholasville	March 21
Johnson	P. B. Hall	Paintsville	March 9
Knott	M. F. Kelley	Hindman	March 30
Knox	T. R. Davis	Barbourville	March 29
Larue	D. W. Gaddie	Hodgenville	
Laurel	Oscar D. Brock	London	March 13
Lawrence	W. C. Gose	Louisa	March 18
Lee	W. D. McCollum	Beattyville	March 9
Leslie	John H. Kooser, Act. Sec'y	Hyden	
Letcher	J. E. Crawford	Whitesburg	March 26
Lewis	J. D. Liles	Vanceburg	March 18
Lincoln	Lewis J. Jones	Hustonville	March 15
Livingston	William C. Davis	Smithland	March 6
Logan	Walter Bryne, Jr.	Russellville	March 6
Lyon	H. H. Woodson	Eddyville	March 5
McCracken	Leon Higdon	Paducah	March 27
McCreary	R. M. Smith	Stearns	March 4
McLean			March 14
Madison	H. G. Wells	Richmond	March 21

COUNTY	SECRETARY	RESIDENCE	DATE
Marion	W. A. Risteen	Lebanon	
Marshall	S. L. Henson	Benton	March 20
Mason	O. M. Goodloe	Maysville	March 13
Meade	A. A. Baxter	Brandenburg	March 28
Menifee	E. T. Riley	Frenchburg	
Mercer	J. Tom Price	Harrodsburg	March 12
Metcalfe	E. S. Dunham	Edmonton	March 5
Monroe	George E. Bushong	Tompknisville	
Montgomery	D. H. Bush	Mount Sterling	March 12
Morgan	W. H. Wheeler, Act. Sec'y.	Betsy Lane	
Muhlenberg	J. H. Harralson	Central City	March 12
Nelson	R. H. Greenwell	Bardstown	March 20
Nicholas	T. P. Scott	Carlisle	March 18
Ohio	Oscar Allen	McHenry	March 6
Oldham	S. J. Smock	LaGrange	March 5
Owen	K. S. McBee	Owenton	March 7
Owsley	John R. Aker	Booneville	March 4
Pendleton	W. A. McKenney	Falmouth	March 13
Perry	J. M. Ray	Allais	March 11
Pike	F. H. Hodges	Pikeville	March 4
Powell	I. W. Johnson	Stanton	March 4
Pulaski	M. C. Spradlin	Somerset	March 14
Robertson			
Rockcastle	Lee Chestnut	Mount Vernon	
Rowan	A. W. Adkins	Morehead	March 11
Russell	J. B. Scholl	Jabez	March 11
Scott	L. L. Cull	Georgetown	March 7
Shelby	W. P. Hughes	Shelbyville	March 21
Simpson	N. C. Witt	Franklin	March 12
Spencer	No Organization		
Taylor	M. M. Hall	Campbellsville	March 7
Todd	B. F. Boone, Jr.	Elkton	March 6
Trigg	H. L. Wallace	Cadiz	March 27
Trimble	J. J. Gerkins	Bedford	
Union	D. C. Donan	Morganfield	March 27
Warren	Hal Neel	Bowling Green	March 13
Washington	J. H. Hopper	Willisburg	March 20
Wayne			
Webster	C. M. Smith	Dixon	March 29
Whitley	C. A. Moss	Williamsburg	March 7
Wolfe	G. M. Center	Campton	March 4
Woodford	Charles F. Voigt	Midway	March 7

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*Proc. Soc. Exp. Biol. and Med., 1934, 32, 241-245
Laryngoscope, Feb. 1935, Vol. XLV, No. 2, 149-154
N. Y. State Jour. Med., June 1935, Vol. 35, No. 11
Arch. Otolaryngology, Mar. 1936, Vol. 23, No. 3, 306-309

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N. Y. State Jour. Med. 1935, 35—No. 11, 590; Laryngoscope 1935 XLV, 149-154. Proc. Soc. Exp. Biol. and Med., 1934, 32, 241-245. ☐

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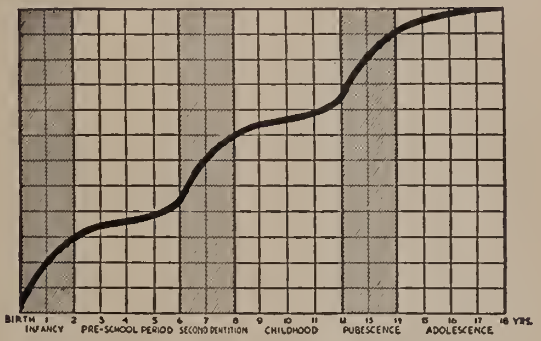

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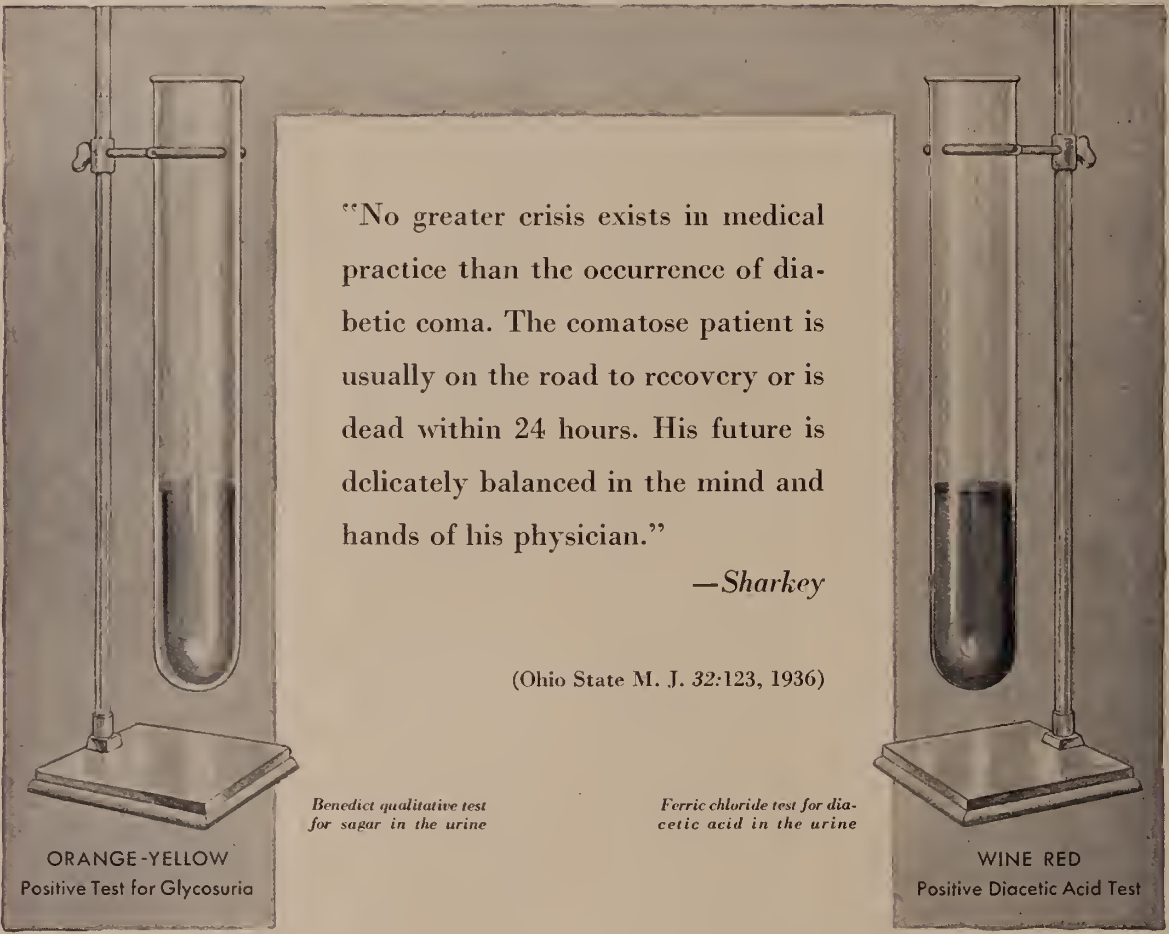

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(Ohio State M. J. *32:*123, 1936)

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KENTUCKY MEDICAL JOURNAL

BEING THE JOURNAL OF THE KENTUCKY STATE MEDICAL ASSOCIATION

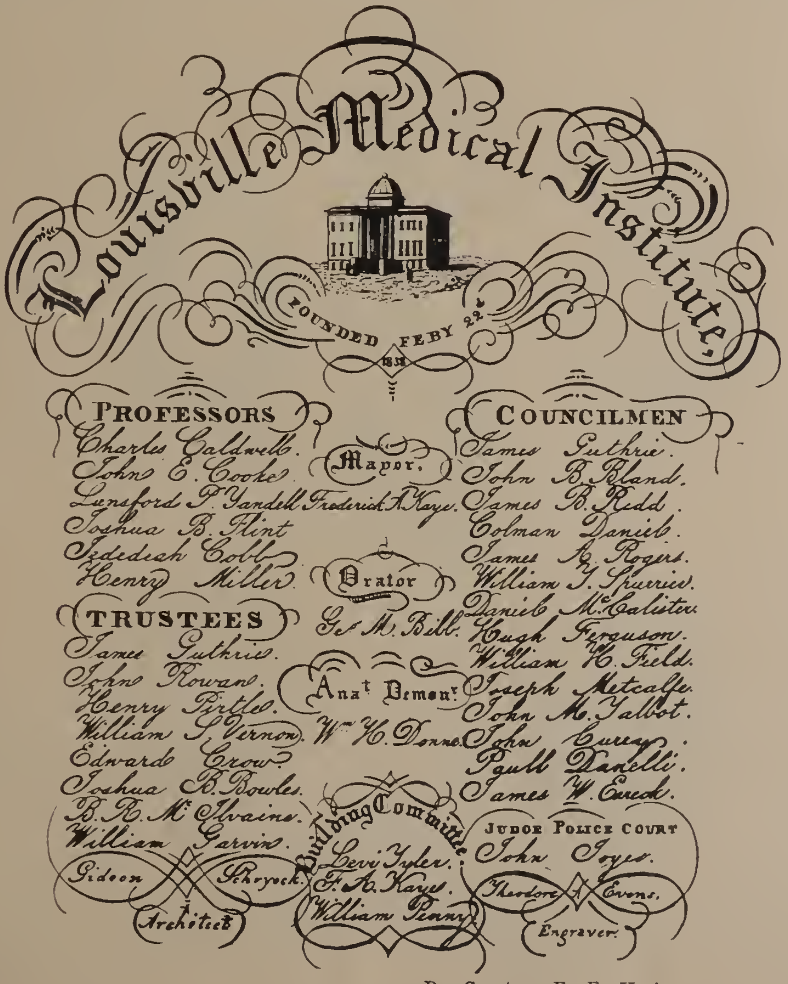
Published Under the Auspices of the Council

VOL. 35, NO. 3 BOWLING GREEN, KY. MARCH, 1937

THE CENTENNIAL OF THE UNIVERSITY OF LOUISVILLE

In this country of ours, new though it is, it is not uncommon to hear of centennials and bicentennials of various institutions. Nevertheless it is exceedingly rare to find a school of medicine celebrating its 100th year of continuous existence; and these celebrations have been confined to schools only in some of the original thirteen states. The University of Louisville School of Medicine in celebrating its 100th anniversary has the distinction of being the oldest school west of the Alleghenies and the first unit of the oldest municipal university in this country. It has enjoyed truly a remarkable existence, starting with what we might call the fruits of Transylvania University when its medical school was in her glory; it has continued uninterrupted for five generations as an approved institution for the training of physicians. While it is true that her very sons rose to found medical schools in her midst, at no time was her existence jeopardized, but rather as history shows, it was strengthened, and in the end all the separate schools united with the parent.

It is the purpose of this volume to cherish



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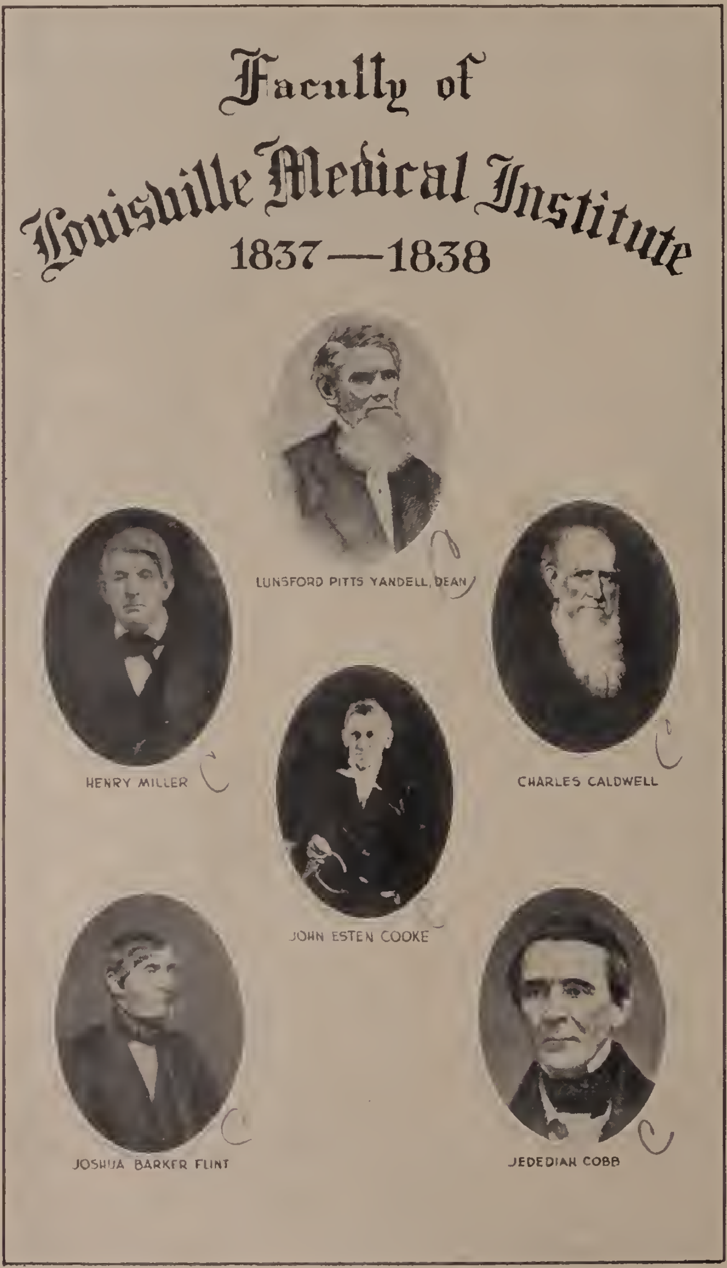
LIST OF FOUNDERS

and give honor to the past, and to set forth the present as we believe it to be. You will find in the following pages historical sketches of certain leaders and departments of the school, together with a description of the present facilities. Various committees have given unstintedly of their time to prepare a program for the Centennial Celebration March 31-April 3. The complete program is included in these pages and all physicians and their families are urged to attend.

Our school is greatly indebted to the officers of the Kentucky State Medical Society for their generosity in turning over this issue of the Journal to us. Our thanks are due particularly to J. B. Lukins, Councilor; A. T. McCormack, Editor of the Journal, and Dr. Lillian South, Business Manager.



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ORIGINAL FACULTY

PROGRAM
University of Louisville School of Medicine
CENTENNIAL CELEBRATION
March 31-April 3, 1937

Headquarters, Ballroom, Kentucky Hotel

Wednesday, March 31, 1937

Ward rounds, 8:30-9:30 A. M., Louisville City Hospital.

First session 10-12 A. M.

Ballroom Kentucky Hotel.

ANEURYSMS; WITH A REPORT OF ADDITIONAL CASES.

Mont R. Reid, M. D.

Head of Department of Surgery, University of Cincinnati.

A. B. Roanoke College; M. D., Johns Hopkins; Prof. and Head of Dept. Surgery Univ. of Cin.; Dir. Surg. Service Cin. Gen. Hosp., Children's Hosp. Recipient of Rudolph Matas Vascular Surgery Award. Member Am. Surg. Ass'n.; So. Surg. Ass'n. Research in Surgery of the Arteries and of the Sympathetic Nervous System.

LATENT SYPHILIS AS A CAUSE OF HEART DISEASE.

Roy Wesley Scott, M. D.

Clinical Professor of Medicine, Western Reserve University.

A. B. Indiana; M. D. and A. M. Western Reserve. Prof. Clin. Medicine Western Reserve; Chief of the Medical Services, Cleveland City Hospital. Member of Ass'n. of Am. Phys.; Soc. Clin. Invest.; Physiol. Soc.; Soc. Exp. Biol.; Soc. Pharm. Research in Cardio-vascular Diseases.

Second Session 2-4 P. M.

THE PREVENTION AND CURE OF GOITRE.

Wm. D. Haggard, M. D.

Prof. of Clinical Surgery, Vanderbilt University.

M. D. Univ. of Tenn.; D. C. L. Univ. of the South; Prof. of Clin. Surg. Vanderbilt. Member of Am. Coll. of Surg.; Am. Surg. Ass'n.; Soc. of Clin. Surg.; So. Surg. Ass'n.; Societe Internationale de Chirurgie. Ex. Pres. of A. M. A.; Am. Coll. Surg.; So. Surg. Ass'n.; etc.

THE RECENT FLOOD IN KENTUCKY FROM THE STANDPOINT OF PUBLIC HEALTH.

Arthur T. McCormack, M. D.

Commissioner of Health, State of Kentucky.

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Evening Session 8-9 P. M.

MEDICAL FRONTIER A CENTURY AGO.

Chauncey D. Leake, Ph.D.

Head of Department of Pharmacology Univ. of California. Guest Phi Beta Pi Fraternity.

Litt. B. Princeton; M. S. and Ph.D. Wisc.; Prof. and Head Dept. of Pharm. Univ. of Calif. Med. Sch. In charge research Pacific Inst. Trop. Med., Hooper Found. Member of Physiol. Soc.; Soc. Pharm.; Soc. Exp. Biol.; Hist. Sci. Soc.; Gesell Gesch. Med. Nature; Int. Anesthetic Research Soc. Research in Hematology, Anesthesia, Intrapleural pressure, Pharmacology of morphine, nitrites, barbitals and carbon dioxide. Chemotherapy of Amoebiasis.

Thursday, April 1, 1937

Ward rounds, 8:30-9:30 A. M., Louisville City Hospital.

Third Session Thursday, 10-12 A. M.

PELLAGRA: A COMPARISON OF ENDEMIC PELLAGRA WITH SO-CALLED ALCOHOLIC PSEUDO-PELLAGRA.

M. A. Blankenhorn, M. D.

Head of Dept. of Medicine, Univ. of Cincinnati.

Ph.B.; College of Wooster; A. M. and M. D. Western Reserve. Prof. and Head of Dept. Med. Univ. Cin.; Dir. Div. Med. Cin. Gen. Hosp. Member of Ass'n. Am. Phys.; Soc. Clin. Invest.; Soc. Exp. Path.; Cent. Soc. Clin. Res. (Ex. Pres.). Research in Hepatic and Blood Diseases; Physiology of Biliary pigment; Pellagra.

SURGICAL PROGNOSIS.

W. D. Gatch, M. D.

Dean School of Medicine, Indiana University.

A. B. Indiana; M. D. Johns Hopkins. Dean and Prof. Surg. Ind. Univ. Sch. of Med. Member Western Surg. Ass'n.; So. Surg. Ass'n; Am. Surg. Ass'n.

Fourth Session, 2-4 P. M.

PROBLEMS IN EXPERIMENTAL SYPHILIS.

Hugh J. Morgan, M. D.

Head of Dept. of Medicine, Vanderbilt University.

B. S. Vanderbilt; M. D. Johns Hopkins. Prof. and Head Dept. Med. Vanderbilt Univ. Member of Ass'n. of Am. Phys.; Clim. and Clin. Ass'n.; Soc. Clin. Invest.; Soc. Bact.; Harvey Soc. Research in Infectious Diseases.

ENDOCRINOLOGY IN CHILDHOOD.

A. Graeme Mitchell, M. D.

Head of Dept. of Pediatrics, University of Cincinnati.

M. D. Univ. Penn.; Prof. and Head of Dept. Ped. Univ. of Cin.; Dir. of Ped. and Contagious Diseases Cin. Gen. Hosp.; Med. Dir. and Chief of Staff Children's Hosp., Cin.; Dir. Children's Hosp. Research Found., Cin. Associate Editor Ped. Cyclopedia of Medicine. Member Am. Ped. Soc.; Acad. Ped. (Ex Pres.); Cent. States Ped. Soc. Co-author of the Griffith-Mitchell text book on pediatrics. Research in Nephritis, Asthma, Tuberculosis, Contagious Diseases, Endocrines, etc.

Evening Session, 8 P. M.

THE FATE OF THE GOOD CHRONIC T. B.

Lawrason Brown, M. D.

Homer L. Sampson, M. D.
(By invitation)

Past Chair. Med. Board and Consultant Trudeau Sanatorium.

Guest of Waverly Hills Sanatorium.

A. B., M. D. Johns Hopkins; Sc.D. Dartmouth. Past Chair. Med. Board and Consultant Trudeau Sanatorium. Member of Ass'n Am. Phys.; Ex. Pres. Clim. and Clin. Ass'n.; Am. San. Ass'n. Research in Pulmonary Tuberculosis; Immunity from Tuberculosis.

CANCER OF THE UTERUS.

Quitman Underwood Newell, M. D.

Prof. Clin. Obstetrics and Gyn. Washington University.

M. D. Univ. of Ala.; Prof. Clin. Obs. and Gyn. Wash. Univ. Sch. of Med. Member of Am. Coll. Surg.; Am. Ass'n. Obs. Gyn. and Abd. Surgeons; Cent. Ass'n. of Obs. and Gyn.; So. Surg. Ass'n. Research in Iodized Oil in Gynecology; Recovery of Human Ova from Fallopian Tubes; Ovulation and Menstruation, Cancer of the Uterus.

Friday, April 2, 1937

Ward rounds, 8:30-9:30 A. M., Louisville City Hospital.

Fifth Session, 10-12 A. M.

PATHOGENESIS OF INFECTIOUS DISEASE.

E. Wm. Goodpasture, M. D.

Prof. of Pathology, Vanderbilt University.

Guest of Alpha Omega Alpha Fraternity.

A. B. Vanderbilt; M. D. Johns Hopkins; Prof. Path. Vanderbilt, Ass'n. Exp. Path.; Ass'n. Path. and Bact.; A. A. A. Fellow; Harvey Soc. Research in Hemorrhagic Pancreatitis, Influenza, Yaws, Herpes, Rabies, Virus Diseases.

FUNCTION OF THE KIDNEY.

A. N. Richards, Ph.D.

Head of Dept. of Pharmacology, Univ. of Pennsylvania.

Guest of Medico Chirurgical Society.

A. B., A. M. Yale; Ph.D. Columbia; M. D. (hon.) and Sc.D., Pa.; Sc.D. Western Reserve, Yale; L. L. D. Edinburgh. Prof. and Head of Dept. of Pharm. Univ. Penn.; Wm. Wood Gerhard Gold Medal, Phila. Path. Soc.; Geo. M. Kober Medal, Ass'n. Am. Physicians; Keyes Medal, Am. Ass'n. Gen. Urinary Surg.; John Scott medal, City of Philadelphia; Gold medal of the N. Y. Acad. of Med. National Acad. of Sci.; Am. Philosoph. Soc.; Am. Acad. of Arts and Sci.; Pharm. Soc.; Physiol. Soc.; Soc. Exp. Biol.; Soc. Biol. Chem.; Harvey Soc.; Hon. Fellow Coll. of Phys. of Phila.; Cor. Mem. Gesell. der Aerzte, Vienna. Research in Chemistry of Connective Tissues, Salivary digestion, Adrenalin Secretion, Action of Histamin, Shock, Kidney Function.

Lunch at Medical School 12-2 P. M.

Inspection of Medical School, 2-4 P. M.

Saturday, April 3, 1937.

Sixth Session, 9:30 A. M.

Louisville City Hospital.

Dedication of New Dispensary Building, Amphitheatre City Hospital. Speakers, Hon. Neville Miller, Mayor; Hugh R. Leavell, M. D., Director of Health and Raymond A. Kent, President, University of Louisville.

Inspection of New Dispensary Building.

Lunch at Louisville City Hospital 12:30 P. M.

Evening Session, 8 P. M.

Public Meeting at Louisville Memorial Auditorium.

A HALF CENTURY OF AMERICAN MEDICINE.

Simon Flexner, M. D.

Director Emeritus, Rockefeller Institute Medical Research.

M. D. Univ. of Louisville 1889; Fellow, Associate and Prof. of Path. Johns Hopkins Univ. 1891-99; Prof. of Path. Univ. of Penn., 1899-1903: Dir. Rockefeller Institute for Med. Research 1903-35: Dir. Emeritus since 1935. D. Sc. Harvard Yale, Princeton, Pennsylvania National Univ. of Ireland: LL.D., Maryland, Brown, Johns Hopkins Washington (St. Louis), Cambridge (England) Western Reserve: Doctor, Honorarius—Strasbourg, Catholic Univ. of Louvain, Universite Libre (Brussels). Scientific societies: Nat'l. Acad. of Sciences: Assoc. Amer. Phys.: Exp. Biol.; Royal Soc. Trop. Med. and Hygiene: Med. Soc. Berlin; Acad. Nat'l. des Sciences Paris; Paris Acad. Med.: Soc. biol. de Paris; Reale Ist., Lombardo; Acad. royale de Med. de Belge; also medical and scientific societies in Holland, Sweden. Denmark, Austria, Russia and South American countries. Prizes: Cameron (Edinburgh); Wm. Wood Gerhard Medal, Philadelphia, Path. Soc. Research in Epidemic Cerebrospinal Meningitis and its Serum Treatment Etiology and Pathology of Epidemic Poliomyelitis, Experimental Epidemiology, Epidemic Encephalitis, etc.

CENTENNIAL CELEBRATION COMMITTEES

PROGRAM COMMITTEE

John Walker Moore, Chairman

Irvin Abell
Barnett Owen
J. B. Lukins
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S. I. Kornhauser, Secretary.

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Roy H. Moore
William R. Moore
Kenneth Reising
Esther Wallner

Exhibits by the Departments of Anatomy, Chemistry, Physiology and Pharmacology, Bacteriology and Public Health, Pathology, Medicine, Surgery and the Library. The exhibits will illustrate the history of teaching these subjects at the University of Louisville, scientific work accomplished and in progress here, and high lights of advances in their respective fields. Details of exhibits will be described in a special folder.

Alumni Banquet Friday, April 2, 8 P. M.

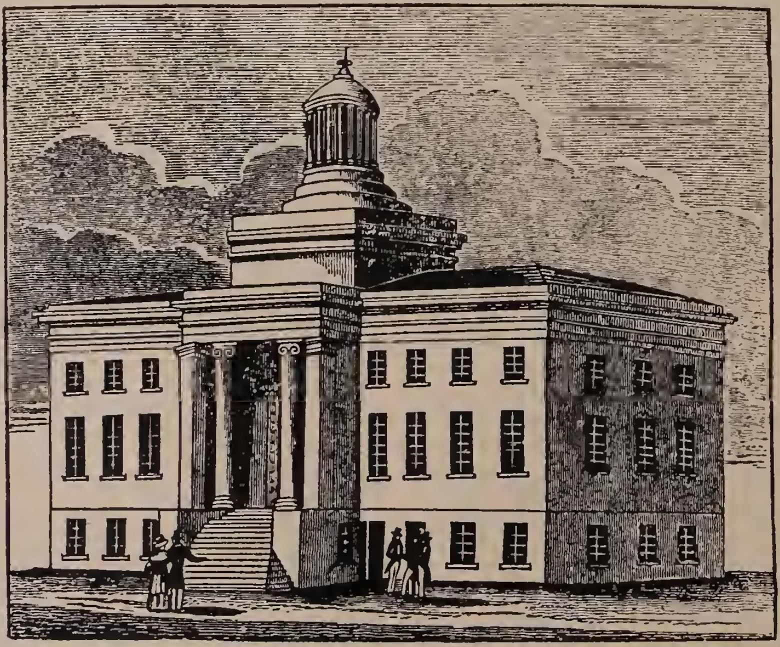
President R. A. Kent and Irvin Abell, M. D.

SCHOOL OF MEDICINE AND AFFILIATED INSTITUTIONS

THE MEDICAL SCHOOL OF THE UNIVERSITY OF LOUISVILLE

Irvin Abell, M. D., F. A. C. S.
Clinical Professor of Surgery.

The history of the Medical School of the University of Louisville is closely linked with that of Transylvania Medical School since the organization of the former was largely effected by members of the faculty of the latter who desired the greater facilities afforded by Louisville over those then existing in Lexington. Transylvania University was established in Lexington, Kentucky, in 1780; in 1799 a medical school was added with the appointment of Drs. Samuel Brown and Francis Ridgely as professors therein. From 1799 to 1817 various appointments were made in the medical department and partial courses of lectures delivered. Following this year the school entered upon a remarkable career of service. In addition to Drs. Brown and Ridgely its faculty embraced a coterie of other brilliant teachers, among whom are found Benjamin Winslow Dudley, internationally known surgeon; James Bush, pioneer lithotomist; William Hall Richardson; the erratic but brilliant Charles Caldwell; John Esten Cooke, known for his humoral theory of disease and his heroic dosage of calomel therefor; Daniel Drake, who with Samuel Brown was a great internist of his day, Brown, in 1802, four years after Jenner announced his discovery of vaccination, having vaccinated more than 500 patients; Constantine Samuel Rafinesque, world known botanist; Charles Wilkens Short, a botanist of national repute; L. P. Yandell, Sr., chemist, forceful writer and accomplished speaker, sire of a distinguished generation of Kentucky doctors; Robert Peter, who "performed a greater number of reliable, detailed, practically useful analyses of the soil than any living chemist of his time. John Eberle, teacher and writer of medicine; Thomas D. Mitchell, teacher in the schools of Kentucky and Philadelphia; Nathan Ryno Smith, who later returned to Baltimore, where, as surgeon and teacher in the University of Maryland, he established an enduring fame; William Short Chipley, distinguished alienist, and others of lesser attainments. During



THE MEDICAL INSTITUTE

OF THE CITY OF LOUISVILLE.

JANUARY 1. 1839.

By Courtesy E. F. Horine

The Medical School Building 1934.

the 39 years of its active existence the medical school taught 4,656 pupils and conferred the degree of doctor of medicine on 1,881 of that number, a contribution in medical education of the day of incomparable value. The library of Transylvania today contains one of the rarest collections in this or any country of books and manuscripts published during the seventeenth and early part of the eighteenth centuries. The Medical School of the University of Louisville when founded was known as the Medical Institute of the City of Louisville, a charter having been secured from the State Legislature with the assistance of Dr. Alban Goldsmith, a former associate of Dr. Ephraim McDowell. The law authorizing the establishment of the "Institute" was approved on February 2, 1833. Section 6 of the original act is interesting in that it provided for clinical instruction, an advanced step at this period of medical education. "Section 6. That the trustees of the Louisville Marine Hospital may confide the medical department of said hospital to the Institute, and the Mayor and Council of the City of Louisville may confide the medical department of the poor house and hospital to said Institute." The difficulty in securing medical teachers of recognized ability combined with the lack of adequate financial backing continued to delay the opening of the Institute. Because of Louisville's strategic river location, rapidly increasing size and consequently greater clinical facilities, six members of the Transylvania Medical Faculty, during the first part of the 1836-37 session discussed and apparently unanimously agreed upon the advisability of its removal to Louisville. This action precipitated a rather acrimonious fight involving the faculty, the trustees, and the citizens of Lexington which had as one of its results the opening of the Louisville Medical Institute in 1837 with the following faculty: Henry M. Miller, a graduate of Transylvania, professor of obstetrics and diseases of women and children; Charles Caldwell, a graduate of the University of Pennsylvania, professor of the institute of medicine and clinical practice and medical jurisprudence; John Esten Cooke, a graduate of the University of Pennsylvania, professor of the theory and practice of medicine; Lunsford Pitts Yandell, Sr., a graduate of Transylvania, professor of materia medica, lecturer on chemistry and dean of the faculty; Joshua Barker Flint, a graduate of Harvard, professor of surgery; Jedediah Cobb, at graduate of Bowdoin, professor of anatomy. At the close of the first session Dr. Charles Wilkins Short of Transylvania assumed his duties as professor of materia medica and medical botany while Yandell became professor of chemistry and pharmacy. At the opening of the third session Dr. Daniel Drake who was then internationally known, accepted the professorship of clinical medicine and pathological anatomy. During his stay in Louisville he completed his monumental work, *A Systemic Treatise, Historical, Etiological and Practical on the principal Diseases of the Interior Valley of North America, as they appear in the Caucasian, African, Indian and Esquimaux Varieties of its Population.* He had devoted more than 30 years to the preparation of this work, the first volume of 878 pages illustrated with nineteen plates appearing in 1850 and the second one of 985 pages in 1854.

On April 23, 1846, the University of Louisville was founded with two departments, the department of medicine and the department of law and by amendment of the charter the Louisville Medical Institute constituted the Medical Department. In 1840, Dr. Joshua B. Flint resigned as professor of surgery and was succeeded by Dr. Samuel D. Gross, a graduate of Jefferson Medical College (1828). With the exception of one year, 1850, when he was professor of surgery in the University of the city of New York, during which time the chair in Louisville was filled by Dr. Paul F. Eve, Dr. Gross remained as head of the surgical department for 16 years. During this time, under the stimulating influence of his leadership, assisted by his colleagues in the University, notably Dr. Daniel Drake and Dr. Austin Flint, Louisville became the leading medical center of the West. Most of the work on his monumental system of surgery was done during these years. This work on *Diseases, Injuries and Malformations of the Urinary Organs* was published in 1851 followed by that on *Foreign Bodies in the Air-passages* in 1854.

During the greater part of the past century the system of medical education consisted of apprenticeship and attendance upon lectures. There were but few hospitals, medical literature was in its infancy, and the advantages and opportunities afforded by the medical societies of today were unknown. The professors in the medical colleges were the accepted leaders, hence men of ability sought such positions as a means of winning recognition and distinction. With such conditions prevailing, it was but logical that with the growth of Louisville as a medical center the number of men aspiring to teaching positions became so great as to result in the establishment of new schools. The Kentucky School of Medicine was founded in 1850, the Louisville Medical College in 1868, the Hospital College of Medicine in 1873, and the Medical Department of Kentucky University in 1898. The list of men who taught in the five schools is a long one: the writer would select the following as distinctive, classifying them by their spheres of activity. Deans: J. M. Bodine, W. H. Wathen, C. W. Kelly, P. R. Taylor and T. C. Evans. Surgery and Clinical Surgery: J. B. Flint, S. D. Gross, P. E. Eve, B. R. Palmer, D. W. Yandell, A. B. Cook, R. O. Cowling, Tobias G. Richardson, W. O. Roberts, H. H. Grant, W. L. Rodman, J. M. Holloway, A. M. Cartledge, Turner Anderson, L. S. McMurtry, Joseph Matthews, and W. H. Wathen. Medicine: Austin Flint, Charles Caldwell, Daniel Drake, John E. Cooke, T. S. Bell, L. P. Yandell, James W. Holland, Samuel Bemiss, John A. Ouchterlony, W. H. Galt, George Warner, E. D. Force, Lewis and Coleman Rogers, William Bailey, F. C. Wilson, J. B. Marvin, John G. Cecil and P. B. Scott. Obstetrics and Diseases of Children: Henry Miller, John E. Crowe, John Hardin, Theophilus Parvin, H. B. Ritter, W. H. Bolling, J. A. Ireland, H. E. Tuley. Anatomy: Jedediah Cobb, J. W. Benson, J. D. Burch, G. W. Bayless, C. W. Kelly, and J. M. Bodine. Physiology: H. M. Bullitt, E. R. Palmer, Sam Cochran. Chemistry: L. D. Hostenbine, Benjamin Silliman. Ophthalmology, otology and laryngology; Dudley S. Reynolds, M. F. Coomes, J. M. Ray, William Cheatham, T. C. Evans, P. R. Taylor. Dermatology: I. N. Bloom.

Of these Drs. Samuel Gross, Theophilus Parvin, James Holland, and William Rodman removed to Philadelphia; Dr. Austin Flint to New York, and Dr. Tobias Richardson and Samuel Bemiss to New Orleans, in which cities they enjoyed distinguished careers as leaders in the profession. These men taught during a transition period and were the connecting links between the old and new eras. With the advent of the laboratory, the growth of biology, chemistry and physiology, and the development of the modern hospital, medicine ceased to be empirical, became more and more a science, and medical education conformed to the inevitable change. In 1908 these five schools were merged into one under the title of the University of Louisville School of Medicine. With the union of the various schools the building which had been used by the Louisville College then located on First and Chestnut Streets, was taken over and has served for the teaching of the preclinical subjects until 1935 when a new annex was erected. During our centennial celebration, a new wing to the City Hospital will be dedicated. (See description under Louisville City Hospital.) In 1922 an agreement was made between the City Fathers and the Board of Trustees of the University of Louisville, whereby the professional work of the Louisville City Hospital, an institution of

400 beds, was placed entirely under the direction of the School of Medicine. Previous to this agreement the faculty of the medical school was appointed to serve in the hospital only during the school year; during the summer months other physicians were appointed by the Board of Public Safety to care for the sick. All of the various services necessary for the adequate care of patients and for teaching, together with offices for full time clinical faculty, are housed in this hospital.

In 1930 teaching affiliations were made with the Waverly Hills Tuberculosis Sanatorium, a modern charitable institution with a capacity of 440. It is located some seven miles outside of the city and the students live and work there during a few weeks of their training. In 1932 an affiliation similar to that with the Louisville City Hospital was made with the Children's Free Hospital (75 beds), which has facilities for the care of medical, surgical and orthopedic cases. This hospital is across the street from the City Hospital, an ideal situation for the proper distribution of patients between the two insitutions. In this same year responsibility for the maintenance and development of the Psychological Clinic, which had been conducted for about ten years by an organization of the Community Chest, was assumed by the Psychiatric Department of the School of Medicine. The out-growth is the Mental Hygiene Clinic, housed on the grounds of the Children's Free Hospital. Shortly afterward the department of public health and bacteriology of the medical school assumed control of the department of epidemiology of the City Health Office and in 1934 it took over the City's Department of Bacteriology. Such arrangements preclude political interference and allow easy access to teaching material.

It will be seen that the School of Medicine, through its affiliations, has 915 beds for purposes of instruction. There are available to the students, in addition, 150,000 dispensary visits a year. The faculty at the present time consists of 159 teachers, 69 of whom are of professorial rank. There are 25 full-time and 21 part-time teachers in the organization. Of the full-time teachers, 20 are of professorial rank, 16 in the preclinical and 4 in the clinical branches. Below professorial rank there are 3 full-time teachers in the preclinical and 2 in the clinical branches. All four part-time teachers of professorial rank are in the clinical branches; of the 17 below professorial rank, 13 are in the clinical and 4 in the preclinical branches. There are also one full-time librarian and 2 part-time assistants. The minimum requirement for admission is 60 semester hours of college work, as fixed by the Association of American Medical Colleges. The classes are limited to 90 students each and the average enrollment in the school is 350.

The University of Louisville, as a municipal institution, receives by law 5 to 7 mills of the taxes collected by the city, but this covers not more than 35 per cent of the total operating expense. The remainder is paid from endowments, donations, and student fees. The University, which began with the School of Medicine in 1837, added during the succeeding years, the School of Law in 1846; the College of Liberal Arts in 1907; the School of Dentistry in 1918; The Speed Scientific School in 1924; and the School of Music in 1932. At the present time the enrollment for the entire University is in the neighborhood of 3500 students.

THE EARLY HOSPITAL AFFILIATIONS OF UNIVERSITY OF LOUISVILLE SCHOOL OF MEDICINE

R. ARNOLD GRISWOLD, B. A., M. D.

Associate Professor of Surgery.

Hospital affiliations have long been essential to medical schools and indeed, physicians could probably be better trained without access to class rooms, laboratories and books, than without sick human beings for practical demonstration and instruction. This fact was recognized from the earliest days of medical instruction when the Greek schools were centered about the Asclepia, or Temples of Health, to which invalids resorted for the cure of disease.

The founders of the University of Louisville, in its first years known as the Medical Institute of the City of Louisville, were fully aware of the necessity for adequate clinical facilities. Section 6 of the original Authorization Act, approved February 2, 1833, provides, "that the trustees of the Louisville Marine Hospital may confide the medical department of said hospital to the Institute, and the Mayor and Council of the City of Louisville may confide the medical department of the poor house and hospital to said Institute." The Louisville Marine Hospital was founded in 1817 and later became the Louisville City Hospital (not to be confused with the United States Marine Hospital at Louisville). It generally housed about fifty patients, and during the second session of the school, Professor Caldwell held the first clinics in its wards. In November, 1840, the Medical Institute erected a new Clinical and

Louisville City Hospital.

Surgical Hall in connection with the hospital. This is described in the Western Journal of Medicine and Surgery for 1840, page 319, "It is placed a few feet south of the old building, of which it will form a wing, being connected with it by a gallery, along which the patients, either for medical or surgical treatment, will be carried on their beds from the wards without exposure or inconvenience. The room will be capable of seating 400 persons and being arranged in the form of an amphitheatre with skylights, will afford to each student a full view of the patient while undergoing examination or operation."

Horine, in his History of the Louisville Medical Institute and of The Establishment of the University of Louisville and Its School of Medicine, read before the Filson Club, November 7, 1932, quotes Drake in his address at the opening of this amphitheatre on November 5, 1840: "The erection and opening of this Hall may, indeed, without ostentation, be regarded as an era in the history of medical instruction in the West. It completes the circle of opportunitics and prepares the way for making those opportunities as precious and productive to the student, as those afforded in any other city of the Union. Henceforth, there will exist no difference between your young alma mater, and the oldest schools of the nation, but what is found in men who administer here, compared with these of the more ancient seminaries." The great Gross first operated here during the session of 1841.

The Marine Hospital constituted the entire clinical facilities of the school until the construction of a "Medical and Surgical Clinique," established in connection with the university at Eighth and Chestnut in 1850-1. Fire on December 1, 1856, destroyed the old school and it was removed to the City Hospital during rebuilding.

The University catalog for the session of 1863-4 states that lectures on clinical medicine and surgery will be delivered at the City Hospital during the entire session. A confusion of names, however, is shown by the Requisites for Graduation, which state that the student "must have attended one course of clinical instruction in the 'Louisville Marine Hospital, or some other institution approved by the facultv." This requirement appears in all catalogs until that of 1885-6, when the words, "Louisville Marine Hospital" were changed to "Louisville City Hospital." In the catalog of 1867-8, it is stated that, "the clinical advantages offered by the University are unsurpassed. The Louisville City Hospital, University Dispensary and Louisville Dispensary—the two latter institutions under the exclusive control of the faculty—receive and treat between 15,000 and 20,000 patients annually."

In 1868-9, it is stated that "It is the determination alike of the faculty and trustees to insure to the students that kind of information which will be most useful to them in professional life, and which, consequently, will render patients most safe under their charge. Hence, there will be a continued and an increased determination to make the university essentially a practical and demonstrative school." This statement recurs in the catalogs for years and is an early indication of the reputation which the university has at present for practical teaching.

In 1869-70, the catalog says that, "The increasing growth of Louisville has, for some years, demanded more ample hospital accommodations and the municipal authorities, fully awake to the urgency of this want, are at present directing their attention to an extensive enlargement of the City Hospital, which is in rapid progress. Nine spacious wards, possessed of all the modern improvements, will be added to the present edifice, which is itself to undergo complete renovation. This enlargement will inure greatly to the benefit of medical students, by largely increasing the resources for clinical instruction. In addition to this increase of the hospital itself, there is also in process of construction in the eastern extension of the building, a new spacious amphitheatre for clinical instruction and every effort will be made to render it a model of comfort and convenience. It will be thoroughly lighted and ventilated by large windows in its walls and by the dome and will be arranged to seat about 500 students."

In the fee schedule of the catalog for 1870-1, it is noted that the ticket for clinics at the Louisville City Hospital is required at a cost of five dollars. This requirement is still in effect in the new catalogs. Two medical and two surgical clinics were held each week at the City Hospital and the University Dispensary furnished material for daily college clinics from the following chairs:

Clinical Medicine, Clinical Surgery and Diseases of Women and Children.

In 1872, the University Dispensary, which was under the control of the faculty afforded great facilities for the students. The building was on the university grounds and was open to students and patients throughout the year. There was no similar institution of charity in the city and its clinics were daily crowded with the sick poor, which abounded in Louisville as in other large cities. The advantages accruing to the university students from this source were among the chief attractions of the institution, giving them the opportunity of attending cases and witnessing disease in every phase.

In 1874, additional clinical instruction was provided at SS. Mary and Elizabeth Hospital, which at that time was under the exclusive medical and surgical control of the faculty. Marine Hospital clinics were still required. For a few years during the eighties, what was later the Beechmont Sana-

Louisville City Hospital in the 80's.

tarium on Daisy Lane (now Grinstead Drive), was used as a lying-in hospital because of the prevalence of puerperal fever at the City Hospital. At about this time, trained nurses were first used at the City Hospital, having been introduced to Louisville with the establishment of Norton Infirmary in 1882. At this time, interneships in the City Hospital were granted by competitive examination among the students in the four schools then in existence in Louisville. The catalog for 1886-7 states that, "The Board of Commissioners of Public Charities has conferred upon the faculty of the Medical Department of the University, the right to nominate a member of the resident staff of the City Hospital." This allowed the leading student from each school to have one of the four interneships available and prevented discrimination between the various schools.

In 1887 a new dispensary was erected upon university grounds. "The clinical department consists of a capacious reception room for patients, measuring 36 feet in length. Having been classified by an assistant, they are examined in the presence of the Clinical Staff by the respective professors, in large and commodious apartments, devoted to this purpose, and cases of special interest are then taken into the large clinical amphitheatre, to be exhibited and lectured on before the whole class. This amphitheatre is very large and spacious and its acoustic properties are remarkably fine, so that even those occupying seats furthest from the lecturer can easily hear the latter. The arrangement of the seats is also most admirable, so that operations can be perfectly followed from every part of the room. The examining rooms are furnished with all appliances for the investigation of disease and numerous operations of every variety are performed before the class in the course of the session. Frequent opportunities are afforded advanced medical students for attending patients at their homes. This last sentence is interesting in view of the recent re-adoption of home visits by medical students in certain departments.

There was no further important change in the Hospital connections of the University until 1900, when, it is stated, "the Board of Trustees are happy to announce that they have established in connection with the College, a Hospital, complete in modern equipment. The commodious building which stands on our campus, a few feet from the Medical College, and known to our alumni as the Male High School, a landmark of Louisville, and the property of the University, is now undergoing a process of remodelling and refitting which will adapt it admirably to hospital purposes.

The edifice and equipment are placed under the exclusive control of the faculty who will utilize it for bedside instruction. The hospital, in addition to the large department for outdoor patients, long afforded by the University Dispensary, enhances materially the clinical advantages of the school and constitutes an attraction of real power. The catalog for 1902-3 states that, the hospital maintains a training school for nurses who reside in the hospital and give the sick their constant care.

The catalog for 1907-8 states that, "The Louisville City Hospital has recently undergone a complete revision from basement to dome. A new surgical operating room and clinical amphitheatre have been erected, apartments for infectious diseases have been added, and spacious wards for children have been furnished after the most approved modern ideas. The enormous amount of clinical material is utilized twice a week for the benefit of advanced students in Surgery and general medicine. Besides this, the senior class is divided into small sections, and is permitted to make the rounds of the wards with the staff physicians. . . . Autopsies are held in the new pathological amphitheatre and students are invited to witness these autopsies throughout the session."

The clinical instruction at SS. Mary and Elizabeth Hospital was discontinued in 1907, but in 1908, clinical instruction was started at St. Anthony's Hospital and continued until 1912. In 1910, construction of a new City Hospital made it necessary to move this institution to the University Hospital building at Eighth and Chestnut, where the City Hospital operated until the present building was completed. With the completion of this hospital, the old University Hospital was discontinued and clinical instruction since that time has been confined to the Louisville City Hospital, except for additional hospital affiliations in the last few years. Until 1922, the faculty of the Medical School served the hospital only during the school year, other physicians being appointed for the summer. This condition prevented proper teaching of internes, and also made it impossible to carry on efficiently the very extensive services required in the different departments of the hospital concerned directly with the treatment of patients. Accordingly in 1922, an agreement was entered into between the city and university, placing the professional work of the hospital entirely in the hands of the faculty of medicine. The present agreement precludes political interferences with the professional care of patients and in safe-guarding the health of the citizens.

When the hospital was constructed, no provision was made for an outpatient department. Clinics have been held in the basement halls of the building. The volume of work carried on increased enormously during the twenties and thirties, not only because of the growth of the city, but on account of the recent economic conditions. In 1919-20, 82,343 bed days of treatment were given in the hospital. In 1933-34, 150,236 bed days of treatment were given. In the same period emergency visits had increased from 1,742 to 20,590. This means that in the small emergency room available, one patient is treated every 25 minutes, day and night. Clinic visits have increased from a total of 69,832 to 156,843. About 12,000 patients a year are admitted for bed treatment and over 1300 babies are born in the hospital each year. About 4,000 operations are performed yearly in surgery. These conditions have led to the construction of a new wing on the City Hospital which will be opened during the Centennial. The present plant of the Louisville City Hospital is described in detail in this volume.

PRESENT PHYSICAL PLANT OF THE MEDICAL SCHOOL AND ITS AFFILIATIONS

John Walker Moore, A.B., M.D.

Dean Medical Department

The building for the basic sciences as taught in the first two years is located at First and Chestnut Streets. It is one and one-half blocks west of the Louisville City Hospital and of the Children's Free Hospital, the centers in which most of the clinical teaching is done.

The Medical School Building. The original structure erected in the early nineties consisted of a large four-story building connected to a smaller two-story building, both of solid stone construction of Romanesque architecture. The teaching of the first two years was carried out in these buildings until the fall session 1935, when an additional building of four stories, erected through government aid, was opened, thus practically doubling the former space. The new structure was built over and just back of the colonnade of the two-story building, thus preserving as far as possible the outward appearance of the old school. Each floor of the new building is connected by a corridor to the old. The old part has been revamped and thoroughly modernized to conform to the new, not only in laboratory, but also in classroom equipment.

The arrangement is such that the various divisions are each located on a separate floor. The Division of Anatomy is on the fourth floor; Pathology, Bacteriology and Public Health is on the third; Physiology and Pharmacology is on the second. On the first floor, besides Physiological Chemistry, are the administrative offices, the library, and the student's locker room. In the basement there is a book store and lounging room for students. The new project called for an expenditure of $255,000, of which $30,000 was used for equipment. (For details of equipment, etc., see the heading of Facilities in each department). The building as it now stands presents ideal conditions for teaching and for research.

Affiliated Institutions

Louisville City Hospital. The Louisville City Hospital is a charity institution with a capacity of 500 beds, including a new four-story dispensary wing, which is now being built at a cost of $446,000. All types of ailments except communicable diseases are treated under one roof. Here each professional department has its own office and laboratory facilities. The pavillion for contagious diseases is on the same lot. In all, it is an admirable and convenient set-up for the teaching of medicine.

The hospital proper, built in 1915, is of modified Spanish Renaissance architecture with an exterior of buff colored face brick and limestone trim. The central structure is a four-story building with a fifth story suggesting a pent house. On each side are three four-story wings, one being the Nurse's Home. This central group and the new dispensary wing contain the following: On the fifth floor are the offices of the Professor of Medicine and his staff, together with laboratories for research, blood chemistry, basal metabolism, and electrocardiographic work. On the fourth floor are the wards and operating rooms for general surgery, gynecology, ear, nose and throat, and eye for adults, also a physical therapy ward. On the same floor in the new wing are pathological and roentgenological departments. The internes' quarters are also on this floor in the central section. On the third floor are the obstetric, pediatric, and psychiatric wards, together with the dispensaries for general surgery, gynecology, and urology. In the central section of this floor are the apartments for the Superintendent and the resident staff. On the second floor, surrounding the entrance hall, are the business offices, including those of the Superintendent and the Superintend-

School of Medicine, University of Louisville.
(Insert—School of Medicine Annex.)

ent of Nurses. Four large medical wards occupy four of the wings.

At the rear of the central group are the amphitheatre for lectures and clinic and the dining room.

In the dispensary wing are the medical, obstetrical, ear, nose and throat dispensaries, together with the Record Room. On the first floor one wing houses the department of bacteriology and serology; two wings are given over to receiving, accident, fracture, and orthopedic services; while the remaining space is occupied by the general and dietetic kitchens and laundry. In the dispensary wing the space is given over to the pediatric, dermatological, and dental clinics, and to Social Service. Separate buildings, on the ground, house the power plant and provide extra quarters for internes and for service.

The School of Medicine assumes responsibility for the professional care of patients in the hospital. More than $50,000 is paid annually in salaries by the University to the hospital's professional staff. The headquarters of the clinical departments are in the hospital. The budget for non-professional side of the hospital and for maintenance of the wards and dispensaries is furnished by

City Hospital with New Addition.

the city, and the business administration of the institution is in the hands of a Superintendent appointed by the Director of Health of the City of Louisville. All key positions in the non-professional service are under the so-called Merit System. All professional appointments to the staff are made by the Director of Health, but only on recommendation of the Board of Trustees of the University of Louisville, after nominations by the heads of departments through the Medical Council to the Dean, and thence to the President of the University. The relations between the hospital and the School of Medicine are based on an agreement between the University and the City authorities.

Children's Free Hospital. The University is affiliated with the Children's Free Hospital. Medical students and internes have the opportunity to study all the cases

Amphitheatre, City Hospital.

Children's Free Hospital

in this hospital. The institution is located just across the street from the City Hospital. Facilities are divided into medical, surgical, and orthopedic. The Children's Free Hospital has a bed capacity of seventy-five.

Waverly Hills Tuberculosis Sanatorium. The School of Medicine has teaching affiliations with the County Tuberculosis Hospital at Waverly Hills. This institution is administered efficiently by a corps of paid physicians. Medical students rotate through this institution and live there when on service. Waverly Hills Tuberculosis Sanatorium has a bed capacity of five hundred. (Fig 4).

Mental Hygiene Clinic. This clinic is located in a two-story building on the grounds of the Children's Free Hospital, which is just across the street from the Louisville City Hospital. The clinic is under the supervision of the Psychiatric Department of the School of Medicine.

Waverly Hill Sanitarium.

PRESENT FACILITIES AND TEACHING

FACILITIES AND TEACHING IN ANATOMY

S. I. Kornhauser, A. B., M. A., Ph.D.

Professor and Head of Department of Anatomy, Histology and Embryology.

The Anatomy Department occupies the fourth floor of the Medical School and has, in addition, cadaver storage in the basement and an animal room on the fifth floor. The fourth floor houses: the Gross Anatomy laboratories for medical and dental students, a fluoroscopic room, a gross anatomy museum, the Microscopical Anatomy laboratory, the Microscopical Anatomy preparation room, a departmental library, offices and laboratories for the staff and graduate students, photographic and chart making room, and three storage rooms for Microscopical Anatomy, for special dissections, and for the bone collection. This outlay provides not only for student instruction but makes adequate provision for independent research in practically all fields of anatomy.

1. Gross Anatomy. The Gross Anatomy laboratories are thoroughly modern and are designed to give the student a comfortable and efficient place to do his work thoroughly. The laboratories are provided with all-metal, humidor dissecting tables of special design to keep the material in proper condition. Each student is provided with an adjustable, focusing overhead lamp and a movable book rack for his dissecting manual. An adequate supply of well injected material is provided and each student dissects one-half of the human body under the direct supervision of the instructors who quiz daily in the laboratories. Students are provided with disarticulated skeletons and study the osteology of the parts they are dissecting. The fluoroscopic room adjoins the dissecting laboratory and is used by the students in the study of living anatomy. Weekly oral and written quizzes are given to the class divided into two sections.

2. Neuro-Anatomy. The Anatomy of the Nervous System follows the course in gross anatomy and is given in the same laboratory. In this course the students study not only the gross anatomy of the human brain and cord but have selected cross sections stained by the Weigert method and upon the basis of this study, reconstruct models of the nervous system with the chief conducting pathways. Patients exhibiting various lesions of the central nervous system are used to illustrate abnormalities in the conducting pathways.

3. Topographical Anatomy. In the fourth year the students, in relatively small sections, are given a course in topographical anatomy or the clinical application of anatomy in surgery and medicine. Dissections, serial cross sections of the entire body, and charts are used in illustrating this work.

4. Embryology. The course in embryology aims to give the student an historical

General Laboratory for Gross Anatomy

General Laboratory for Microscopical Anatomy.

background for anatomy and also serves as a foundation for histology and pathology. An adequate supply of serial sections is made up into loan collections for the students. These slides are made in our own laboratories. Living chick embryos and moving pictures are used in the course. Cleared embryos, dissections, wax models, and charts are used to make the work concrete. Perfect series of small human embryos are put on demonstration during the final weeks of the course. The laboratory is of most modern design,

Preparation Room Microscopical Anatomy.

Research in Anatomy, Micro-Moving Picture Recording.

each student being provided with a microscope lamp permanently affixed to comfortable tables, which are provided with running water, gas, and electricity. Steel lockers for the microscopes are provided. There is ample provision for demonstrations throughout the length of the room and in the laboratory itself the embryological museum is housed.

5. Histology and Organology. Histology and Organology are taught in the same laboratory as Embryology. Students are provided with collections of mounted slides, at present numbering one hundred seventy-one, to which additions are made from time to time. A variety of staining methods is used on these preparations to give a well rounded idea of the finer make-up of the human body. The slides are supplemented by study on living tissues by supra-vital methods. Weekly mimeographed outlines are furnished covering the laboratory exercises and are changed from year to year to keep abreast with progress. The class is divided into three sections for weekly oral and written quizzes.

6. Research Facilities. Up to date and modern facilities for all types of microscopical work are provided. This includes apparatus and material for all methods of sectioning and staining, optical equipment for study and projection of slides is on hand. We also have a micro-dissecting apparatus, several microphotographic cameras, a micro-photographic moving picture apparatus, a copying and enlarging camera. Active research is being carried on by members of the staff assisted by research assistants selected from the most brilliant students in their classes. This research has included in recent years, studies on the sympathetic nervous system, the action of living capillaries, the role of activators in development, the vascular supply of the brain in living animals, the cytology of ciliated epithelium, and X-ray kymography. The staff consists of two full professors, one associate professor, one assistant professor, and two instructors. They are also aided in their work by a secretary, a technician, and a preparator. A departmental library of fifteen hundred volumes contains many of the important anatomical journals. It is adequately housed and classified, and is available to the students, faculty, and the medical profession.

7. Other Facilities. Other facilities include a well ordered lecture room with projectors, photographic rooms, cross sectioning apparatus for gross sections, bone cleaning apparatus, and an animal room for survival experiments.

PHYSIOLOGICAL CHEMISTRY

A. W. Homberger, A. B., M. D., Ph. D.

Professor, Head of Department of Chemistry.

The Department of Physiological Chemistry is located on the first floor of the Medical School Building. The Department has for its use the following space: a large, forced-ventilated, student laboratory, which accommodates the entire freshman class at one time; a small laboratory for Kjeldahl nitrogen work; two stock rooms (dispensing and storage); three private offices, two research laboratories and two animal rooms. Adjacent to the student laboratory is a departmental library in which the student has access to the literature pertaining directly to biochemical problems. The main library is near the Department and books and periodicals are as readily accessible as those in the departmental library.

There are available for student use colorimeters, drying ovens, a muffle furnace, a high-speed centrifuge, incubator, Kjeldahl nitrogen apparatus of the most recent design; spectroscope, microscopes and such other apparatus as is necessary for the comprehensive qualitative and quantitative aspects of Physiological Chemistry.

The Department offers a comprehensive course in Physiological Chemistry which runs throughout the first year. An earnest effort is made to correlate normal processes and constituents with abnormal function and abnormal constituents. The students are required to make reports during the year in which correlation is made between the current literature and the didactic work and also their laboratory experience. The student is given in the course weekly opportunity to discuss with the instructors the work carried out in the laboratory.

The Department offers to the third year Medical Students a course in Nutrition. An effort is made to present such diets as experience has shown to have a rational basis. Such biochemical aspects are given as will link in the work effectively with the student's medical work. Foods are classified and their acid and basic characteristics discussed, as are principles of diet, digestive diets, and vitamin and mineral deficiency diseases. Basic principles underlying types of diets suggested for various disorders are presented, and reasons for such types discussed. Food poisoning and allergy are also considered. Type diets are built up by the students. The course is presented by mimeographed sheets.

General Laboratory, Physiological Chemistry.

Premedical students are advised to offer some work in Quantitative Analyses. In the event they have not had such a course, they are offered a course in Volumetric Analysis in the first year. The Department feels that the student needs some training in the principles and experience in the technic, of quantitative chemical analysis.

Research in Chemistry: Vitamins and Bone Growth.

THE DEPARTMENT OF PHYSIOLOGY AND PHARMACOLOGY

George E. Wakerlin, Ph.D., M. D.

Professor and Head of Department of Physiology and Pharmacology.

Peter K. Knoefel, M. D.

Assistant Professor of Pharmacology.

The staff of the Department of Physiology and Pharmacology consists of one professor, one assistant professor, and one instructor in physiology, two assistant professors of pharmacology, one assistant clinical professor of pharmacology, one assistant in physiology and pharmacology, one fellow in physiology, and one student assistant and three student research assistants in physiology and pharmacology. The technical staff consists of the departmental secretary, a mechanic, and a store-room and animal man. Other help is obtained from students who are being assisted by the National Youth Administration.

Physical Facilities

The Department occupies the entire second floor of the Medical School Building, a floor area of 14,000 square feet. The large, central student laboratory (Fig. 1), 76 by 55 feet, comfortably accommodates the entire class of seventy to seventy-five students at one time. There are twenty experiment tables in the laboratory, each accommodating two groups of two students. Each table is equipped with 110 V. A. C. outlets for running the kymograph motors and for heating or operative lighting purposes, 6 V. D. C. outlets for the stimulating coils, time outlets giving four-second intervals, compressed air for the artificial respiration machines and other purposes, and gas. Along the windows on either side of the laboratory are four long laboratory tables similarly equipped and two large sinks. Along the south wall of the laboratory there are twelve small rooms for the study of sphygmomanometry, basal metabolism, heat-regulation, vision and hearing. These rooms are equipped with the previously mentioned outlets. Adjoining the other end of the laboratory are the student supply room with its adjacent store-room, and rooms for smoking and shellacking records. Less frequently used equipment and chemicals are stored in another room. The departmental x-ray room and photographic dark-room are used by the students for certain of the laboratory experiments. The Cambridge string galvanometer at the Louisville City Hospital is used for training in the principles of electrocardiography. The student lecture room contains seats for 100 students and has a room for preparing demonstrations adjoining it.

The departmental library houses practically complete files of the leading journals of physiology and pharmacology in English, German and French. Recent volumes dealing with the various branches of these sciences are also available to the student. The library is located next to the office of the departmental secretary who also acts as librarian.

There are six private research laboratories for the departmental staff (Fig. 2), as well as four offices each of which is so equipped with electrical, compressed air, and gas outlets as to be convertible into a research laboratory at some future date if desired. The departmental operating room (Fig. 3), with its adjoining preparation and sterilizing room is fully equipped for aseptic technique. The animal quarters consist of three rooms where dogs and other large laboratory animals under observation for research purposes are comfortably housed in metal cages. The dogs for the student laboratory experiments are obtained from the Louisville City Pound the same day they are to be used so that no housing facilities for them are necessary. A small animal room, a kitchen for the storage and preparation of food complete this unit of the Department. A shop properly equipped for the repair of apparatus and the construction of new equipment is located on the second floor. An aquarium for frogs and turtles is located in the basement of the Medical School Building.

INSTRUCTION

PHYSIOLOGY: The course in medical physiology is given during the first semester and the first two weeks of the second semester of the sophomore year. The course is also open to a limited number of students in the Graduate School of the University who have had adequate training in physics, chemistry, and biology. The course aims to familiarize the student with the more fundamental concepts of physiology and to emphasize particularly those features of the subject which are necessary for an adequate understanding of the phenomena of health and disease in man. The subject of physiology is divided into three parts: (1) The physiology of blood, circulation, and respiration; (2) the physiology of muscle, nerve, secretion, digestion, absorption, metabolism, heat-regulation, endocrines, and excretion; and (3) the physiology of the nervous system and the senses. This subject-matter is covered systematically by 96 hours of lectures and quiz-conferences and 48 laboratory periods of three hours each. Contrary to the present trend, it is felt that carefully and adequately prepared lectures have a definite pedagogical value. In order that the primary objective of the course, viz., the training of men for the practice of medicine, may be achieved as completely as possible, mammalian physiology and especially human physiology are stressed. Clinical data are frequently used and are found valuable not only in establishing physiological principles but also in heightening the student's

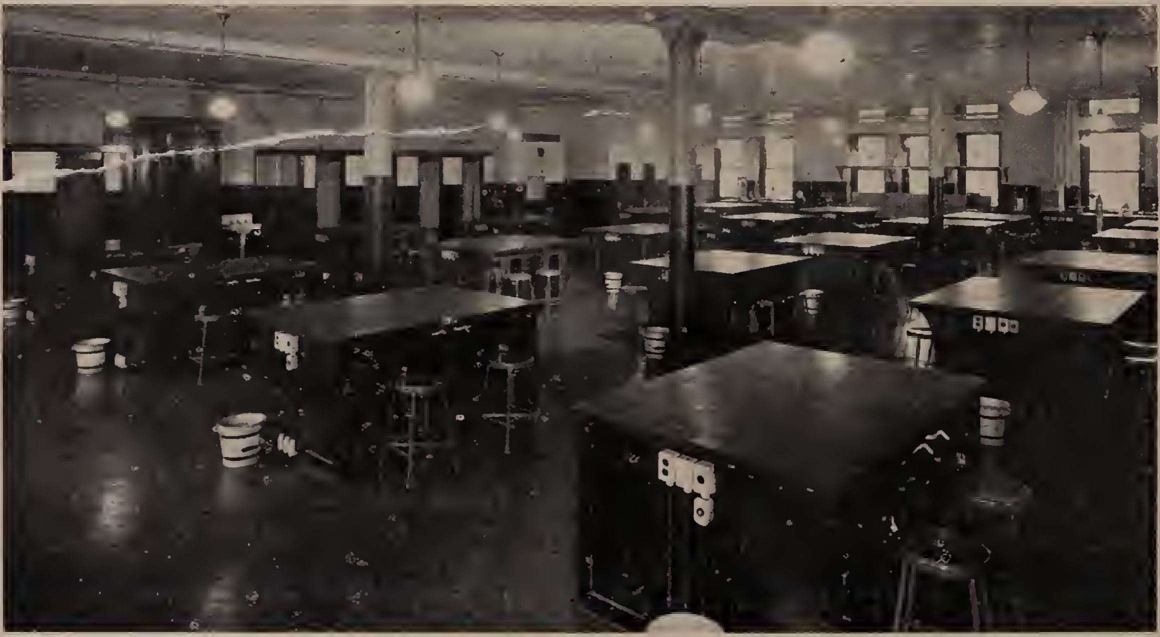


Fig. 1—Main Laboratory of Physiology and Pharmacology.

Fig. 2—Research in Physiology: Innervation of Intestinal Tract.

interest. References to monographs and the original literature are given but there is no assigned reading. One-third of the student laboratory experiments are performed on human subjects and almost another third on dogs or other mammals. Although a sufficient number of experiments is included to demonstrate adequately the physiology of nerve conduction and muscle contraction, experiments of greater significance for the training of future physicians are substituted for those dealing with the intricacies of Pfluger's law and certain of the enigmas of the after-loaded muscle. Thirty-two demonstrations covering experiments which are too difficult technically or otherwise not desirable for the student to perform are given. Among these are included: the physiology of lymph formation and flow, hunger contractions, secretion of sweat, experimental diabetes mellitus, parathyroid tetany, the Friedman pregnancy test, the effects of complete transection of the spinal cord, the Brown-Sequard syndrome, and experimental idiopathic epilepsy. The results and significance of each laboratory experiment are reported verbally to a member of the instructional staff by the students in groups of eight. The added teaching load of this reporting system pays ample dividends in the form of more effective pedagogical results and enables the instructor to evaluate the capabilities of the student more accurately than is possible by observation in the laboratory, large quiz sections, and written examinations alone. (1).

A similar, though somewhat shorter course of 80 lectures and quiz-conference hours and 80 laboratory hours is given during the first semester of the sophomore year to students of the School of Dentistry.

PHARMACOLOGY. The course in medical pharmacology and toxicology is given during the second semester of the sophomore year. This course endeavors to meet the demands made by its position in the curriculum. With the materials, experimental and theoretical, of physiology and biochemistry behind it, it should lead the student into the clinic supplied with a basis for the care of disease. As it is a course for medical students, its information must be that suitable for application, but as it is an important opportunity for the student to deal directly with the experimentally demonstrable effects of medication, it must develop the fundamental principles of its discipline. The course is immediately practical, and also stands with Arrhenius, who said, "Theory is the most practical thing in the world."

The subject matter of the course includes somewhat more than the name would imply. The course deals more generally with the physical and chemical agencies which are of importance in the prevention, diagnosis, and treatment of disease; it is organized on the basis of this classification. Each of the usual methods of instruction is used, the lecture, the demonstration, the laboratory exercise, and the conference. Sixty hours are spent on lectures and demonstrations. For the laboratory work, which occupies 90 hours, no effort has been spared to have it include as much of modern experimental technique as the student is able to perform. In the place of tedious chemical and pharmaceutical manipulations which made up the experimental part of the early courses in "materia medica," and which still occupy a major share of many courses in pharmacology, there are brief exercises on the chemistry of substances which are of interest for their behavior in the body. The rest of the course, truly experimental pharmacology, includes work with bacteria, intestinal parasites, and trypanosomes, and numerous other experiments organized on the basis of the organ-systems of the body. There are some experiments of toxicological significance. A feature of the course is an experiment of the students' own devising, which is performed at the end of the year. Once a week a conference is held on the laboratory work, to insure that the essential points of the experiments have been grasped.

A briefer course of 44 lectures and 28 laboratory hours is given during the second semester of the sophomore year to students of the School of Dentistry.

In a separate lecture course on pharmacy and prescription writing, more of the technique of medication is presented to medical students during the second semester of the sophomore year. This includes demonstration of pharmaceutical methods, and practice in the prescribing of special diets.

Graduate Work. Research in physiology or pharmacology leading to the master's degree is offered by members of the departmental staff. One or two students avail themselves of this opportunity each year.

Research

At present the following studies are under way: (1) The physiology of hematopoiesis; (2) the motor activity and innervation of the colon; and (3) the pharmacology of the central nervous system. The research publications of the Department during the academic years, 1934-1935 and 1935-1936, are listed elsewhere in this issue of the Kentucky Medical Journal.

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(1) Wakerlin, George E.: Teaching of Physiology to Medical Students, 1. J. A. Am. M. Coll., 1935, 10, 347.

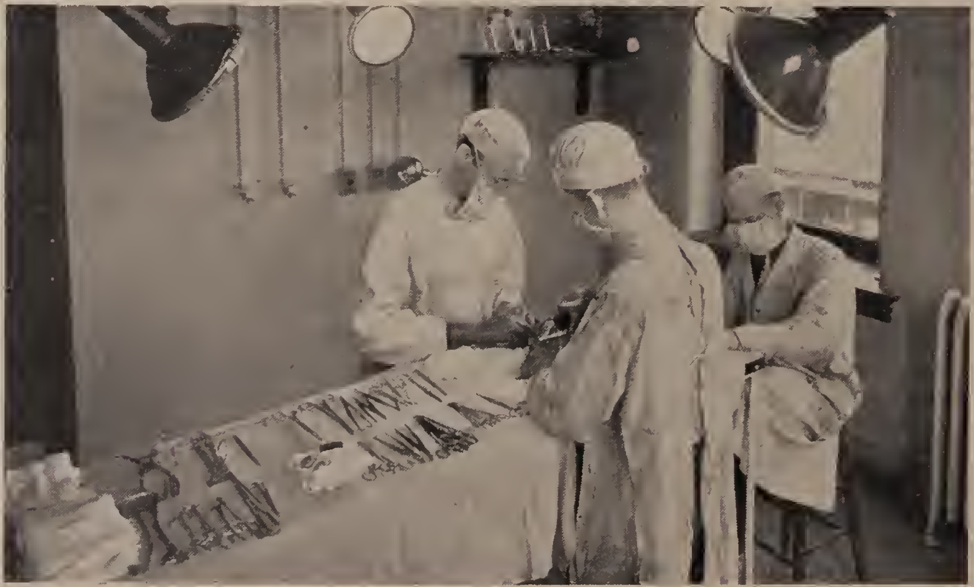

Fig. 3—Research in Physiology: Animal Operation.

THE DEPARTMENT OF PATHOLOGY

A. J. Miller, M. D.,

Professor and Head of Department of Pathology and Serology.

The course in pathology extends throughout the entire second year. The first semester includes two-fifths of the time which is taken up in the study of general pathology, or the consideration of fundamental pathological conditions. The remainder of the time is devoted to special pathology, or the consideration of the diseases of each anatomical system. Stress is put upon the more common things which are practical, rather than rarities.

The theoretical subject matter is augmented by a practical study of the pathological histology of disease. For this purpose each pair of students is issued a set of nearly 400 slides of lesions of diseased tissues. These the students keep throughout the year and may study them at home while reading as well as in the laboratory. After the slides are studied they are discussed in the laboratory with the view to stressing the cardinal features and their significance in the body reactions to the deleterious agents in disease, and also to understand the phenomena of symptoms and physical signs.

The microscopic and gross characteristics are correlated by having approximately 1500 wet, preserved specimens which can be handled and studied at close range.

The laboratory equipment for this work consists of cabinet, laboratory tables, each of which accommodates eight students. There are lockers for each individual's microscope, books, loan collection and other material. Each student has an electric outlet available for a lamp to artificially light the microscope so that the variable daylight may be avoided.

Laboratory work in other courses, (bacteriology and clinical microscopy), is done at these same tables which are suitably fitted with a sink, gas outlets, hot and cold water, assembled in a unit to accommodate four individuals so that it is not often necessary for the student to leave his work table.

The atmosphere in the laboratory is kept in a good hygienic condition by a modern forced ventilation system.

The lecture room is equipped with a projection lantern and screen so that either still, or motion illustrations may be utilized.

Post-morten examinations are conducted at the City Hospital morgue for the benefit of both students and graduate physicians. Attendance for scientific interest is encouraged. Regular attendance by the students in pathology is in groups of four. This group assists in the examination and offers a postmortem report as part of the requirement for credit. To accomplish this fully tissues are selected by the students and prepared for microscopic study by the technicist. When all the data is obtained it is correlated with the clinical history, summarized and analyzed.

Museum Carriage.

Throughout the calendar year the average number of postmortem examinations is approximately one a day.

The Departmental Library is shared with that of the Department of Bacteriology and Public Health. It contains about 1200 volumes. It is made an integral part of the department by being housed on the same floor, yet it is a functional part of the main library by means of a rapid communication system.

The library is used by the students in pathology to acquaint them with reports of important original work, to stimulate them to keep in touch with current activities and discoveries, to impress them with the methods, difficulties, and complexities of research, and to add to their accumulation of knowledge. Regular assignments of subjects are made to individuals who report what they have read and add such discussion and analysis as they see fit. This seminar hour is a sort of conference time at which questions and answers are sought.

The museum is in the process of organization. It was designed for the chief purpose of making it a useful teaching unit and secondarily for the preservation of rare specimens.

The specimens are dissected, preserved in

Kaiserling's fluid and mounted in glass jars. Photographs are taken of the gross specimen and the microscopic structure and printed on translite film. These are mounted in a frame with legends pointing out the structures to be exhibited and lighted by transmitted rather than reflected light. With each specimen the history of the patient's illness is given so that the whole story may be appreciated. (Fig. 1).

The material is arranged in units consisting of diseases and their complications. The completeness is carried to the extent that an individual might need no aid in appreciating the full story of the diseases displayed.

A portable unit is constructed which will facilitate the taking of any group to the laboratory or class room for special display or instruction.

DEPARTMENT OF PUBLIC HEALTH AND BACTERIOLOGY

George M. Lawson, M. D., Dr. P. H.,

Professor and Head of Department of Public Health and Bacteriology.

The Department of Public Health and Bacteriology shares the third floor of the Medical School building with the Department of Pathology. The recent addition of a new wing has given the department adequate administrative and working quarters for its augmented staff, as well as ample space for both laboratory and didactic instruction.

There are two student laboratories in use by this Department. The smaller of these is designed for the practical instruction of small groups of students in the three advanced courses offered by the Department. Here too, students of the School of Dentistry receive their practical instruction in Bacteriology. The larger of these laboratories comfortably accommodates eighty-eight students, although the enrollment for the past ten years has averaged only seventy-five. It is well lighted and each working table is provided with gas, electricity and running water. The laboratory is provided with a system of exhaust ventilation, which, together with an air cooling and filtering system, promote the comfort and health of the student while at work. A nearby media room furnishes supplies as needed by the student and the technical personnel here make and sterilize the media used for research and routine laboratory purposes. Immediately across the hall from the larger laboratory is located an incubator room kept at body temperature and more than ample in size for even future emergency requirements. A sterile room adjoins this. This room is available for tissue culture work and the growth of viruses. The Departmental Library is housed immediately adjacent to the laboratory. Its reading room is larger than those of other departments and its stacks contain over twelve hundred volumes. Among the more important reference works in Public Health and Bacteriology are the complete publications of the Health Section of the League of Nations, the publications of the United States Public Health Service, many files of State Health Department reports, fifteen of the more valuable journals in the field and numerous historic as well as recent monographs and texts.

In addition to the offices of the staff members, a large research room is provided for the use of students or physicians desiring to carry on independent study of bacteriological problems. Immediately adjacent is a large animal room adequately equipped for the humane care of our experimental animals. A modern operating room and an isolation room for the segregation of animals suffering from more dangerous types of infection open from the animal room.

A cold room with a constant temperature of 4 degrees centigrade is used for the preservation of biologicals, media and the culture collection used in the laboratory instruction in Bacteriology. This collection contains about two hundred different organisms of importance in medical bacteriology, including a representative collection of the pathogenic fungi.

The lecture room, used jointly with the Department of Pathology, seats 99 students. It has facilities for blackboard demonstrations as well as for projection of lantern slides and specimens.

Adequate stock rooms and a small shop for the manufacture of needed apparatus complete the spatial inventory of the department.

The department is well equipped for the teaching of modern medical bacteriology. While the student furnishes his own microscope for individual laboratory use, the department owns several demonstration microscopes which are kept in constant use during the laboratory periods. Special dark field microscopes and a colony-study microscope have recently been added. Two high speed centrifuges, water baths, anaerobic outfits and other pieces of highly technical scientific apparatus are available for student use. The laboratories of the City Hospital and the City Health Department furnish valuable material for student use.

The affiliation of these laboratories with this Department was made possible through

General Laboratory for Pathology and Bacteriology.

the addition to our staff of Dr. James A. Kennedy who previously had made an enviable record in a similar laboratory consolidation at Rochester, N. Y. Dr. Kennedy is Associate Professor of Bacteriology in the School of Medicine and Director of the Combined Bacteriological Laboratories of the City Hospital and the City Health Department.

The Department offers five courses in Bacteriology and one in Public Health.

The course in medical bacteriology is given during the first semester of the second year's schedule. After a brief but necessary introduction to the physiological properties of bacteria, the student is introduced as rapidly as possible to the problems of communicable disease bacteriology. In days past the student spent a considerable proportion of his laboratory periods in the making of media. This has been done away with, media making being the work of one laboratory period only. For the remainder of the course media are supplied as necessary for the work in hand. At present pure bacteriology, that is the classification and minute differentiation of bacteria receives scant attention. Where the differentiation of one organism from another is of definate clinical value, the major points of differentiation are still taught. For the most part, however, it is the endeavor of the present staff to teach the method of ingress of the pathogenic organisms, in other words, the mode of infection, the animal or human reservoirs of infection, the enzyme and other actions of the organism and their relations to the alteration in physiological function during disease. In addition, the locations in the body from which organisms may be recovered during the several stages of the disease receive attention, and particular stress is laid upon the cellular and humoral defenses of the human body and the combat waged between them and the invading organism. In other words, the course in bacteriology is in reality a course in communicable diseases in which bacteriology is the foundation for a study of the interplay of invasiveness of the parasite and the defense mechanisms of the host. The prevention and treatment of these diseases considered are taken up only when some serum, antitoxin or vaccine of recognized worth is available to combat them.

The student actually makes vaccines and antisera and standardizes and tests these products. The standardization of toxins and antitoxins is also carried out in connection with diphtheria toxin and the student understands that the fundamental principles of this titration may be applied with slight modification to other toxins and antitoxins.

Medical mycology, the study of the fungi attacking the human body, has, during the

Preparation Room in Bacteriology.

past two years, received increasing attention. During the present session six laboratory periods and seven lectures are given over to this subject alone. The difficulty of planning class laboratory work with the filterable viruses and with the rickettsia has stood in the way of including them at the present time in the laboratory teaching. Efforts are now under way to provide laboratory exercises in these fields.

At seminars held once each week throughout the course, one or more students survey the literature on subjects which are of current interest and of future importance which are not covered in even the most recent texts. Examinations in the course are oral, written and practical, the latter covering the laboratory work of the course.

Bacteriology Laboratory (L. C. H.)

This year for the first time the Department instituted a course in Sanitary Bacteriology in the Division of Adult Education. This evening course was intended primarily for public health employees but was attended by chemists and industrial workers in addition to members of the Milk Division and Sanitation Divisions of the City Health Department.

The remaining courses in Bacteriology are of an advanced character and cater to the special needs of (1) the student in Dentistry, (2) the graduate student and the medical students desiring more detailed training in this field and (3) the public health worker.

The course in Public Health, required of third year Medical students, is divided into three parts. I. Communicable Disease Control and Epidemiology; II. The Hygiene of the Environment; III. The Organized Community Health Program.

The first two parts of the course are designed to prepare the physician to assume his place as the family and community hygienic advisor in such matters as: the control of communicable disease; milk, water, and food sanitation; the disposal of human wastes; and the general sanitation of the environment. The third part of the course considers the world-wide, national, state and local agencies, both public and private, which are charged with the responsibility of furthering the public health, in their administration, budgeting and personnel, and the functions of their several divisions. The course is taught by lectures, assigned readings, and field trips illustrative of the subjects presented. The field trips consist of supervised educational trips to amplify and put in practical form the didactic work on the subject considered. Field trips are made to state, county and city health departments, to the municipal water works, to pasteurizing plants, and to two industrial plants presenting industrial hazards such as lead and chromium poisoning, silicosis, fume fever, and high organic dust concentrations.

Other trips are made to a modern meat packing plant, to the Kentucky School For The Blind, to the city schools to observe modern health educational methods and (planned for this year, in conjunction with the Department of Psychiatry) trips to the Federal Narcotic Hospital and to the State hospital for the care of the Insane. In addition to these trips, each student is individually assigned to one nurse, one sanitary inspector and one milk inspector of the City Health Department and spends one entire afternoon with each of these as they carry on their routine work in the field.

DEPARTMENT OF MEDICINE

JOHN WALKER MOORE, B. S., M. D.,

Dean, Professor, Head of Department of Medicine, Staff Executive City Hospital.

The clinical teaching of general medicine is confined to the Louisville City Hospital, the Waverly Hill Tuberculosis Sanatorium and the University of Louisville School of Dentistry. The students are rotated through these institutions. At the Louisville City Hospital there are four wards with a capacity of thirty beds each, and a large outdoor medical clinic.

WARD SERVICE: For the study of patients the wards are supplied with ophthalmoscopes, otolaryngoscopes, spinal manometers, sphygmomanometers, and ambulatory table laboratories. The latter are so constructed that everything is kept within closed drawers and doors when not in use, save for an upright iron rod which extends a convenient height above the table top and supports a burette and water bottle. This laboratory is used for chemical and cytological studies in special cases on the wards; whereas the routine work is carried out in the general laboratory. Blood chemistry, (Fig. 1) electrocardiographic work, (Fig. 2), basal metabolism, (Fig. 3), blood gases, spirometric determinations and research projects are carried out in the laboratory of the department of medicine, located on the 5th floor. Besides the usual therapeutic agents the wards have access to oxygen tents and an infra-red hyperpyrexator, (Fig. 4).

DISPENSARY SERVICE: The new medical dispensary is connected by a corridor with the medical wards. The dispensary is so arranged that there are five examining rooms for females and ten for males, and fourteen cubicles for history taking.

Each examining room is provided with a metal drop leaf examining table with stirrups, a well sphygmomanometer, desk and chairs. Space is also provided for a clinical laboratory, fluoroscopic and electrocardiographic examinations, demonstrations, allergic study (3 rooms) and dispensary admissions (3 rooms). Apparatus available for special studies consists of a fluoroscope, electrocardiogram, dermatherm, oscillometer, iontophoresis cabinet, spirometer and a cardiolite.

The patients for the teaching clinic of the outdoor dispensary are carefully selected and limited to 50 old and 11 new ones daily. Those seeking medical advise apply to office of dispensary admissions where members of the resident staff, after brief examinations,

Fig. 1. Blood Chemistry (L. C. H.)

classify them, treat minor ailments, and refer those needing more detailed study to the dispensary proper. Each student takes part in working up completely about sixty-five cases in his two year assignment at the Louisville City Hospital.

Student Preceptor System: The clerkship instruction is carried out under the so-called student preceptor method of teaching. In brief, a junior is assigned to a senior student, the two constituting a team. Each team is assigned to a member of the staff. The details of this arrangement are as follows:

One-third of the junior and senior classes are assigned to medicine. Each medical section is divided into groups A and B for rotation. Each group serves five and one-half weeks, a total of 143 hours, in the wards and five and one-half weeks, a total of 66 hours, in the dispensary. At the end of this time, the groups change so that the first group serves in the dispensary and the second group in the wards. The work is so arranged in the wards and the dispensary that one or two third-year students are assigned to a fourth-year student. Every case admitted to house and dispensary is assigned in rotation to a third-year man and his corresponding fourth-year student. The third-year student writes the anamnesis, leaving a margin in which the essential data are abstracted by the fourth-year student. The two together make a complete physical examination (Fig. 5), each writing an independent clinical impression of the case. The fourth-year student does all necessary laboratory work and writes the progress notes. In addition, the fourth-year man writes a summary of the case, together with a differential diagnosis and recommendation for treatment. When the case is completed the patient is examined by a member of the staff in the presence of the students, whose work is thus checked up. The student is not given credit for a case assigned to him unless he has the signature of the staff member who checked the case.

The advantages to the student of the preceptor method of teaching may be summed up as follows: The junior student gets the benefit of almost constant instruction from either the senior student or the house staff, thereby making him a very valuable man in his senior year. The senior student is enabled to observe and to study in detail more cases than if he were assigned cases outright to be worked up. Furthermore, he is stimulated to do his best when the responsibility of teaching his fellow student is placed upon him. The astute instructor can keep his teams alert by playing, so to speak, the junior against the senior student.

Waverly Hills Tuberculosis Sanatorium: The Sanatorium is located seven miles from the City of Louisville. It is also a charitable institution, being supported by the city and county and governed by a bipartisan board appointed by the county judge and the Director of Health of the city through the Mayor. The institution with a capacity of 500 beds has a full time staff of highly trained physicians. Its equipment is adequate and modern in every respect.

The senior students, when on the medical service, rotate through the institution in groups of six. These men live in the Sanatorium during that period of time. The routine of work is as follows: From 8 to 9 A. M. the section is divided into two groups and each group is assigned a patient for chest examination. The findings are recorded on a chest sheet, and are checked by a full-time member of the staff. X-ray plates of the patient are studied and an attempt is made to correlate the findings with the physical signs. From 9 to 11 A. M. a special case is selected for examination to illustrate certain physical signs (e. g. of scattered infiltration, consolidation, cavity, pleurisy with effusion, pneumothorax, etc.). The men are given sufficient time to examine the case and discuss physical findings among themselves. The case is then checked by a member of the staff. If time permits, short talks are made

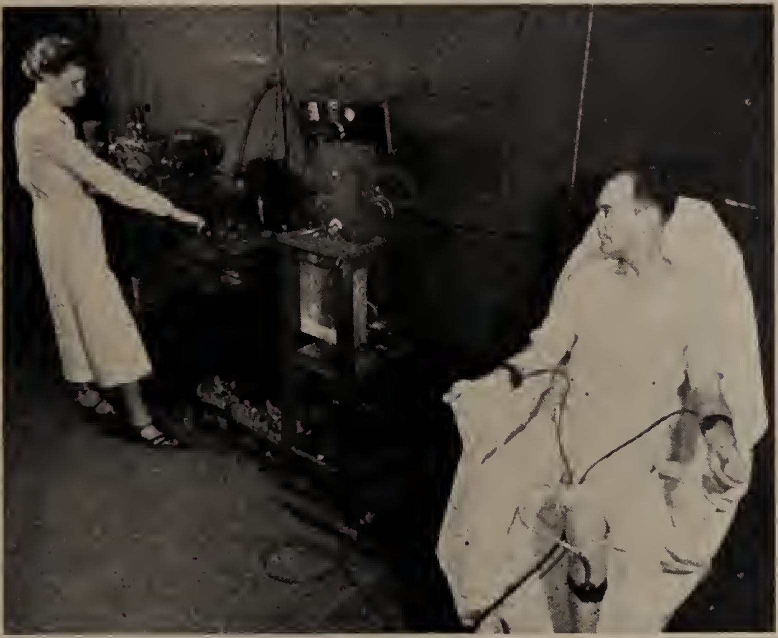

Fig. 2. Electrocardiograph (L. C. H.)

on diagnosis of pulmonary tuberculosis, childhood tuberculosis, intestinal tuberculosis, laboratory aids such as blood counts, sedimentation tests, etc. Once a week the students attend the pneumothorax clinic, bronchoscopic clinic, and an operative clinic. Two afternoons a week the students are assigned cases. The history, physical examination of the chest, together with laboratory data, are assembled and presented by the students at the weekly staff meeting.

Oral Medicine: This is a clinical and conference course in such phases of Oral Medicine as are of value to the student in the Division of Medicine. The course includes a consideration of dental caries, diseases of the alveolar and peridental tissues, and their diagnosis by various methods. This

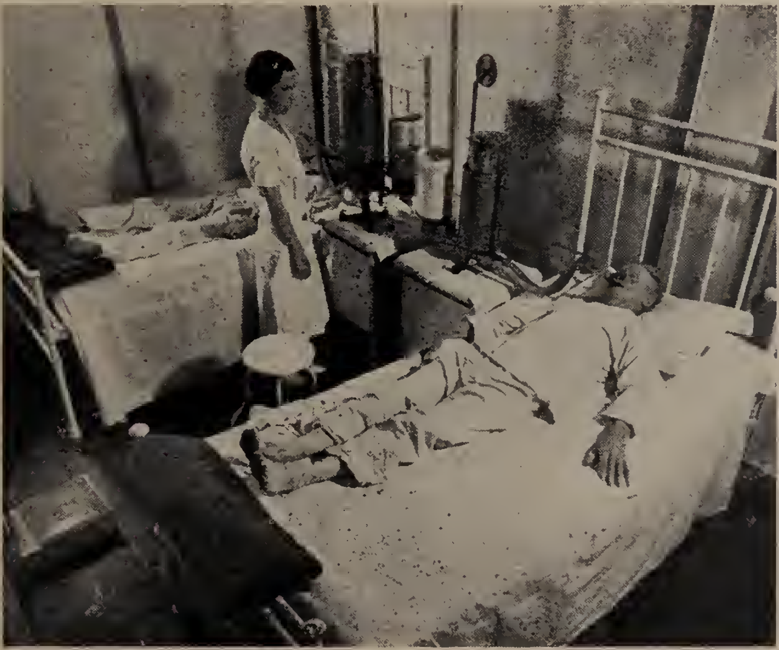

Fig. 3. Basal Metabolism (L. C. H.)

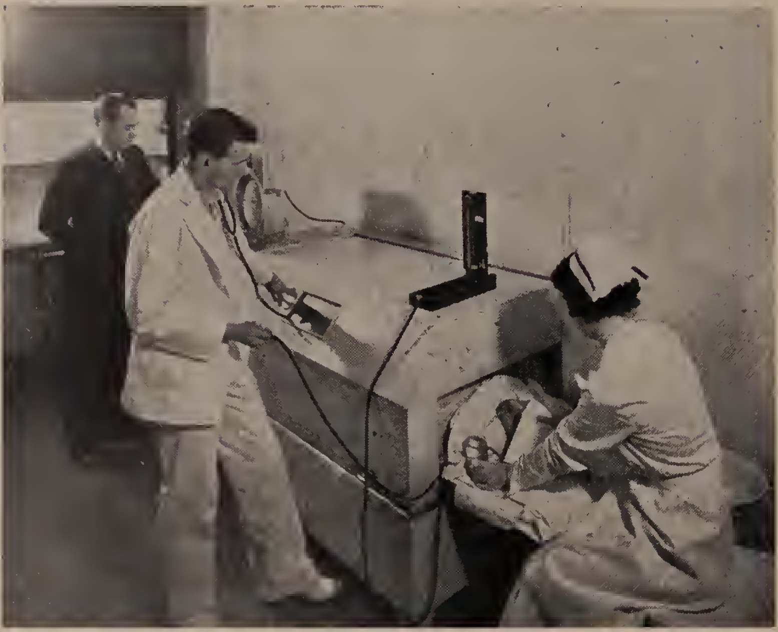

Fig. 4. Hyperpyrexator (L.C.H.)

course is conducted by Dean O'Rourke of the School of Dentistry.

Our connections afford ample material for selecting cases suitable for undergraduate instruction, as is shown by the following figures. The total number of admissions yearly to the medical wards of the Louisville City Hospital is 1,800; to Waverly Hills Sanatorium, 522; to the Medical Dispensary of the Louisville City Hospital, 1,577 new patients and 15,015 old patients.

Fig. 5. Student Team (L.C.H.)

DEPARTMENT OF PEDIATRICS

PHILIP F. BARBOUR, A. B., A. M., M. D.,

Clinical Professor and Head of Department of Pediatrics.

The Course in Pediatrics follows the principles of true pedagogy in that the student begins with the study of the uncomplicated disease processes under the direction of the teachers and gradually assumes individual responsibility for the more complicated disorders.

The junior students attend lectures and quizzes beginning with the simpler diseases of the new born and progressing to those general infections which may involve every organ in the body. They are divided into small groups which make intensive study of the child at the bed side in the wards, under the personal supervision of the professor and assistants. Others of the group are assigned to the outpatients of whom they must make a thorough examination and write complete histories under the supervision of a senior student and eventually of the head of the outpatient department.

The Senior Class also is divided into small groups which attend in rotation the various under-departments of Pediatrics, which embrace the wards in the Children's Free Hospital, the Louisville City Hospital, the Isolation Hospital and the new born service in the Louisville City Hospital.

The Children's Free Hospital has been in existence for more than 40 years and admits white children from every part of the state of Kentucky. Its 75 beds are kept practically full with a great variety of interesting cases coming from the cities and rural districts of the state. It is affiliated with the University of Louisville and so is its Medical Staff. The Resident and Interns are under the control of the Department of Pediatrics of the Medical School of the University. Laboratory technical examinations must comply with all of the requirements of the Department in order to retain the approval of the Council on Medical Education of the American Medical Association. The training school for nurses supplies pediatric training for a number of the large private hospitals in the city and state. The whole set up of the Hospital is utilized for giving the students a very wide opportunity for observation and treatment of cases under strict regulations.

The Louisville City Hospital reserves 75 beds for the Children's Department and its beds which are for both white and colored, are filled from the children of the city and

Ultra Violet Ray Therapy.

its environs. The Isolation Hospital is part of the City Hospital and many cases of contagious diseases from this large district are sent to the hospital for observation and for treatment. The Isolation Hospital also is under the care of the Department of Pediatrics. On account of the growth of the city and the necessity for larger quarters to accommodate the large number of cases of contagious diseases, plans have been prepared for enlarging the capacity of the Isolation Hospital. Each student must pass a certain time in this hospital. The Obstetric Wards in the City Hospital furnish a very large number of new born babies. Each baby after birth is turned over to the Pediatric Department for feeding and any necessary treatment for any conditions that may develop.

The students are trained by a graduate nurse in nursing technic and also they are personally instructed by the Staff in blood transfusion and matching, intravenous and intraperitoneal injections, incubation, tracheotomy, intravenous medication for syphilis and ultra-violet therapy. There are in all about two hundred and fifty beds under the care of the Department of Pediatrics available for such instruction.

The Senior student has the responsibility for such cases as are assigned to him. The examination which he makes, the history which he secures, the recommendations for treatment, the various laboratory tests, X-ray examinations, blood cultures and matching are checked by the residents in the hospitals. His case may be presented at any daily conference with the Professors in the Department, who from their knowledge and experience can point out any errors in diagnosis and treatment in such a way that the whole group is instructed.

The seniors also examine and prescribe for the outpatients and are responsible for the character of work of such juniors as are assigned to them, under the general supervision of the head of the outpatient department.

The students are in close contact with the resident and assistant residents at all times, and must prepare papers upon suggested subjects for review by the resident at stated times. This trains the student in the use of the library for securing the necessary information and also gives him experience in writing and presenting his ideas.

In addition the students are sent to Well Baby and Feeding clinics where they have practical experience in difficult feeding cases and in learning the norm by which to estimate the departure from that norm produced by disease processes. The paramount principle of the department is to instruct each student in the individual problems which he will meet in his profession, and to prepare him to handle them successfully.

DEPARTMENT OF PSYCHIATRY

W. E. GARDNER, A. B., M. D.

Clinical Professor, Head of Department of Psychiatry.

SPAFFORD ACKERLY, A. B., M. D.

Associate Professor of Psychiatry.

Instructor, Hubbard.

Clinical Assistants, Guiglia and Peters,
Fellow, Woodfin.

The relationship of the departmental personnel, as indicated above, is more specifically described as follows: one part-time, non-salaried, Clinical Professor of Psychiatry and Head of the Department; one full-time Associate Professor and Director of Service on the Psychopathic Wards of the Louisville City Hospital; one full-time Instructor, hospital service; two part-time, non-salaried, Clinical Assistants, outpatient service; and one full-time Fellow, attached to the Mental Hygiene Clinic.

FACILITIES

The psychopathic wards of the Louisville City Hospital; the outdoor medical clinic; the medical, surgical, obstetrical and pediatric wards of the hospital; the Mental Hygiene Clinic, and the Children's Free Hospital.

The psychopathic wards of the Louisville City Hospital are now being rebuilt, modernized and enlarged, and when completed will have a capacity of 50 beds. In addition to usual hospital equipment, the wards will have the most modern type of hydrotherapeutic equipment and other forms of physical therapy, including adequate facilities for occupational therapy and various forms of recreation. There will also be an enclosed roof garden for the use of quiet ambulatory patients, and others in various stages of convalescence.

The Mental Hygiene Clinic is located on Floyd Street, less than half a square from the outpatient department of the City Hospital, and while thus far supported by the Community Chest, it has an organic affiliation with, and is in fact a part of the Department of Psychiatry of the University of Louisville, School of Medicine. Its Director is the Associate Professor of Psychiatry. Additional personnel consists of a secretary, a stenographer, a psychologist, two psychiatric social workers and a Fellow in psychiatry, the latter supported by the Commonwealth

Fund of New York City. The clinic treats both children and adults referred by various agencies of the Community Chest, the City Hospital, the Children's Free Hospital, schools and orphanages, the Juvenile Court and by private physicians. The children's problems, for the most part, are personality, behavior and habit difficulties, as well as problems in educational guidance. Emphasis is placed largely on prevention.

FIRST YEAR

One or two informal lectures to all first year students are given, toward the end of the second semester, to stimulate an interest in psychiatry and call attention to its relationship to the pre-clinical foundations of medicine and surgery in their broadest sense.

SECOND YEAR

This course with the entire class in attendance is designed to introduce the student to medical psychology by stressing the fundamentals of psychobiology. It is also designed to enable the student to become familiar with clinical terminology, and teach him the fundamentals of history taking and the proper evaluation of the normal as well as the abnormal personality. The course is devoted to lectures, quizzes, clinical demonstrations and laboratory conferences. Each student is required to write a personality study of himself and at least one other person. (16 didactic hours).

THIRD YEAR

In this course the students are taught in rotating sections of 15 each, and sixteen didactic conferences are held with the entire class. The students are trained in the diagnosis and treatment of frank mental disorders. As an aid in diagnosis and treatment, each student is required to make a home visit for social investigation of each patient assigned to him, usually from the psychopathic wards of the Louisville City Hospital. In planning the treatment for each patient, the student is expected to cooperate actively with all the social agencies. He is required to do a personality study, a physical, neurological, psychiatric examination, and a laboratory study of each patient thus assigned to him. The patient is then presented at a staff conference for discussion, diagnosis and treatment. (16 didactic hours; 68 ward hours).

FOURTH YEAR

Clinical conferences are held daily during the entire year with rotating sections of six students each, in attendance. The object of this course is not only a review and a revaluation of some of the material presented in the previous year, but is particularly designed to enable the student to become familiar with the milder forms of mental and nervous disorders, so frequently seen in private practice, especially the various types of psychoneuroses and other forms of minor maladjustment. Cases art assigned to him from the Mental Hygiene Clinic, the outpatient department of the Louisville City Hospital and various wards of the hospital. The student is required to work up each case, thoroughly, from the standpoint of family and personal history, including childhood, developmental, educational, social and economic history of the patient, and to make a physical, neurological and psychiatric examination, with essential laboratory studies. Following this work up, which sometimes consumes a portion of three or four days, the student is required to present the patient at a staff conference for diagnosis and recommendations. (16 clinic hours; 56 ward hours).

In addition to the formal work outlined above, one or two general conferences are held with the entire senior class, each semester. There is a discussion of plans and purposes of the course, in addition to comments on its relationship to the work of the previous year. Attention is recalled to the present day importance of psychiatry as aid in a better understanding of the total personality of every individual who is ill, and to the large percentage of cases, in every community, having some type of psychoneurotic reactions. Also discussed, are the psychiatric methods of diagnosis and treatment in private practice and public hospitals, including an evaluation of available facilities, both local and national, and other matters of importance coming within the scope of mental hygiene in its broadest sense.

Incidentally, the Department of Psychiatry of the University of Louisville, School of Medicine, was ranked, last year, as one of the best eleven such departments of all the medical schools of this country. This rating was made by Dr. Franklin G. Ebaugh, of the National Committee for Mental Hygiene, as Director of its Division on Psychiatric Education, and who, within the past few years, has made an intensive study of the departments of psychiatry of all class A Medical Schools in the United States. It is gratifying to note that this department of the School of Medicine which was first established as a separate department when that of mental and nervous diseases was divided in 1927, has attracted such favorable commendation.

DEPARTMENT OF SURGERY

C. E. Bird, A. B., M. D.

Professor and Head of the Department of Surgery.

The new Clinic Building and the alterations in the main building of the Louisville City Hospital provide efficient working facilities for all departments, and benefit patients, doctors, students and nurses alike. Since the quality and availability of equipment are of particular importance in surgery, where the treatment is largely mechanical in nature, much of what follows concerns itself with a description of these facilities.

New Outpatient Department, Third Floor, New Clinic Building: In the surgical outpatient department, the students write the histories, examine patients, and assist the instructors in treatment. Urine and blood examinations are made by the students here, while X-ray examinations are made on the floor above. All necessary serological, bacteriological, and metabolic studies are available on requisition, and the results are considered at the patient's next visit. When all desired information has been collected and a diagnosis has been made, the patient is treated, or sent into the ward, or referred to one of the other special outpatient departments. In any event, the student sees the patient again and has an opportunity to observe the results of therapy. Occasionally a patient requires social adjustment or help with dressings at home. For this purpose a social worker is present. Whenever cases are seen which are of special interest, they are presented to the whole group of students in one of the large teaching rooms.

Outpatient Operating Room, Third Floor, New Clinic Building: Small operations which can be done under local anesthesia, such as for paronychia, are done in the examining rooms, but for somewhat larger operations, as for example the removal of sebacious cysts, or the opening of furuncles and abscesses under gas anesthesia, the new operating room in the northwest corner of the floor is used. This room has smooth tiled walls, composition stone floors, built-in cabinets, X-ray viewing boxes, suction, overhead multibeam light, and apparatus for the induction of local, block, gas and ether anesthesia.

Outpatient Quarters for the Departments of Urology, Proctology, Ophthalmology and Otolaryngology: The new urological dispensary is on the fourth floor of the new building in the wing which connects the departments of roentgenology and pathology with the surgical wards. It is composed of a waiting room, history and examining rooms, an office, a laboratory, and two fully equipped cystoscopic rooms with shockproof X-ray apparatus for pyelograms. The proctology department uses the general surgical outpatient rooms, but is provided with a special table for endoscopy. Electrical proctoscopes and sigmoidoscopes are in use and the students have an opportunity to observe a number of important lesions. The work in ophthalmology and otolaryngology is carried on in special rooms on the second floor provided with examining and treatment booths, operating tables, and dark rooms for refraction, perimetry, ophthalmoscopy and the study of muscle inbalances. There is a new giant magnet for the extraction of suitable foreign bodies from the eye. A special table and numerous instruments for bronchoscopic, esophagoscopic and gastroscopic work have been provided.

Central Solution Room, Third Floor, New Clinic Building: Across the hall from the operating room on the surgical floor of the new building is a solution room which services the entire hospital. Here a trained nurse and helper clean flasks, rubber tubing and needles, sharpen needles, make up and sterilize sets for infusion and transfusions, distill water, and prepare sterile solutions such as saline, glucose and sodium citrate for use in the wards, outpatient department, obstetrical department and operating room. A knowledge of the proper functioning of such a solution room should be a part of every medical student's education.

Central Sterilizing and Linen Supply Room: A new arrangement in the basement of the main building gives a valuable opportunity to become acquainted with an up-to-date central linen supply room. All dirty linen is sent to the laundry, from which clean sheets, towels and washable gauze sponges are passed to the central linen supply room. Here they are made up into convenient packages and sterilized. These supplies are sent as needed to the various parts of the hospital.

Emergency Unit, and Outpatient Quarters for the Department of Orthopedic Surgery: Reconstruction in the basement of the main hospital, formerly used as a dispensary, has allowed the formation of a modern unit for the immediate care of accident cases brought to the emergency entrance. The location on the ground floor is ideal for emergency work because unnecessary handling and delays for transportation of patients are avoided. The unit is composed of a waiting room, a large examining and treatment room, a fracture room with roentgenographic apparatus, a dark room, two fully equipped major

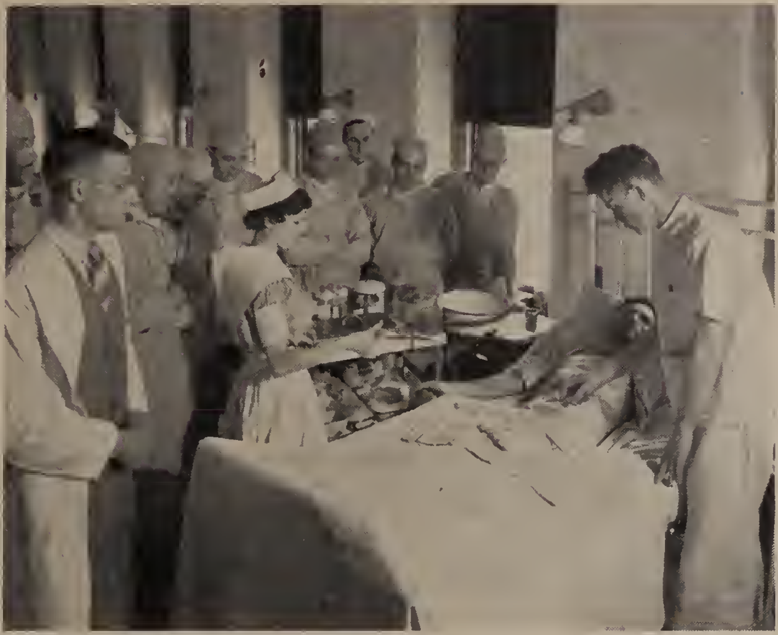

Fig. 1—A Surgical Ward Walk (L. C. H.)

operating rooms, and two wards for emergency cases. There are in addition several examining, treatment and plaster rooms for orthopedic cases. The offices of the admitting and social service departments are close by, since they are necessary for the smooth functioning of an emergency service. A room has been provided which accommodates four students so that they may remain all night to observe and help treat emergency cases such as stab and gunshot wounds, burns, fractures, poisoning, acute abdominal catastrophies, and cardiac failure. After emergency treatment, the patient, if white, is moved by stretcher to his bed on the same floor down the hall. The colored patients are taken by elevator to the wards on the fourth floor. The two new emergency wards accommodate 22 white males and 16 white females. In these wards the students follow the progress of their emergency cases until the time of discharge. Afterward the patients can be seen by them in the outpatient department.

MAIN SURGICAL WARDS: The removal of the emergency cases to the ground floor has relieved the crowded condition of the white wards on the fourth floor of the main building. There are now, as a rule, between thirty and forty patients on each of the two white and two colored wards on the main surgical floor, a number which can be handled satisfactorily without putting more than a few beds in the center aisle. (Fig. 1) Each ward has isolation rooms accommodating from two to four of the sickest patients, usually the early postoperative patients. A number of efficient oxygen tents are available for the patients who need them.

MAIN OPERATING ROOMS: The main operating rooms, although built over twenty years ago, are quite modern in most respects. (Fig. 2) They are in the north wing of the fourth floor of the main building, much nearer the department of pathology than formerly. This is important because it makes it easier to call the pathologists in consultation during an operation, and facilitates the examination of specimens and slides by the residents and surgeons. The operating rooms are staffed by four graduate nurses, five to seven student nurses, and the helpers and orderlies. The instruments are adequate for general procedures and include a Bovie endotherm for electrosurgical work. Two operating rooms were air-conditioned two years ago, bringing relief to patients, nurses and doctors who had suffered greatly from excessive heat during the summer months. In addition to the three large rooms there is a smaller room used for the less extensive procedures. The secretary's office serves as a students' locker room and library.

METHODS OF TEACHING: The teaching of surgery is carried on by a full-time professor, a full-time associate professor, two part-time instructors, and the many practicing surgeons of the city who give freely of their energies. These men carry out a systematic program which insures thorough training for the 85 to 90 students of each class.

Important preliminary instruction begins in the departments of anatomy, biological chemistry and physiology, where fundamental principles prepare the students for an adequate grasp of clinical subjects. In the second year, while they are still engaged in systematic work in physiology, pathology and other subjects, an introductory course of thirty-two hours in surgical principles and technique is given by the associate professor. The history of surgery is reviewed briefly, followed by a study of injury and repair, inflammation, antisepsis, asepsis, anesthesia, specific surgical diseases, the technique of bandaging, application of splints and plaster, and the use of hollow needles, tubing and drains. Particular attention is paid to the treatment of furuncles, paronychias, lacerations and other less serious lesions which occupy so much of a doctor's time, and the understanding of which leads naturally to effective mastery, later on, of more serious problems. Separate courses in ophthalmology and otolaryngology are given also in the second year, thus preparing the students for their long-anticipated plunge into the third year work in the hospital wards and outpatient clinics.

A large proportion of the time for ten weeks of the third year is devoted to the study of surgical patients. For two hours each morning the students help treat the large number of ambulatory surgical and gynecological patients who come to the outpatient department. Two or three instructors work with each section.

In the afternoons, detailed studies are made of some of the 185 surgical patients available on the wards. Each student's work is observed, criticized and extended as his abilities increase. References to instructive articles on subjects relating to his cases are provided, and he is encouraged to read in the hospital and school libraries.

Four ward conferences and an X-ray conference are held for the third year students each week. The work on the wards is supplemented by short but systematic courses of lectures and amphitheatre clinics on general and special subjects including orthopedic surgery, gynecology, urology, proctology, neurosurgery and anesthesia. A portion of the time in the afternoons is spent in the outpatient clinics of the ophthalmological and otolaryngological departments. Throughout the third year, and continuing into the fourth, special emphasis is placed on the proper treatment of fractures. It may fairly be said that the opportunity in the Louisville City Hospital for study of injuries of all kinds is unexcelled.

In the fourth year, the students are advanced to a more detailed program which includes participation as second assistants in operations on their own patients. Much less time than formerly is spent in the observation of operations, and a correspondingly greater amount of time is allowed for individualized instruction on the wards. Particular attention is paid to the principles of preoperative and postoperative care, and to the study of surgical pathology. Special ward

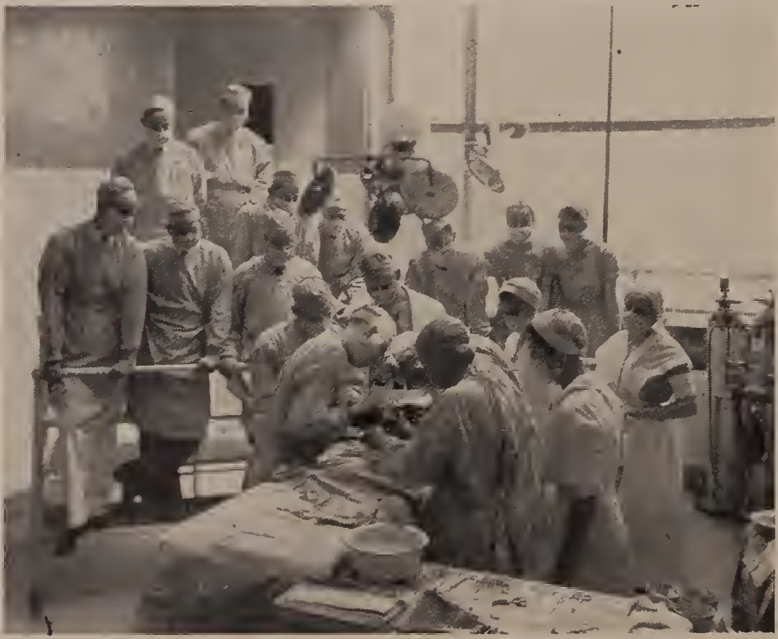

Fig. 2—An Operation (L. C. H.)

conferences are held in general surgery, urology, neurosurgery, roentgenology, orthopedic surgery, proctology, gynecology and fractures. At night, the students are on duty in teams to assist with accident and other emergency work. This is an unusual feature in the training of undergraduates and is of great value. Excellent opportunity for experience in anesthesia is afforded. Part of the time in the fourth year is spent in the outpatient clinics in neurosurgery, urology, orthopedics and proctology.

Postgraduate Training in Surgery: The program recently adopted for the training of internes and residents assists indirectly in the instruction of the third and fourth year students. In surgery, this program covers a period of three years after the junior interneship, and provides postgraduate study and experience necessary to qualify for the examination of the proposed American Board of Surgery. The requirements of the program place the students in an atmosphere of study, and there is an opportunity to take part in progressive surgical work.

Throughout the third and fourth years and during interneships and residences, the students of the University enjoy stimulating contacts with the practicing surgeons of Louisville. The large amount of clinical material makes these contacts doubly valuable, and the new outpatient facilities add still further to the welfare of the students.

ROENTGENOLOGY

Sydney E. Johnson, A. B., M. S., M. D.

Radiologist City Hospital.

Facilities: The X-ray Department occupies approximately 3000 square feet of floor space on the fourth floor of the new clinic building with additional space in the medical and fracture clinics.

The main working unit consists of a large general radiographic room, fluoroscopic room with complete gastrointestinal set-up, machine room, dark room and reading room. All essential modern devices for improving and facilitating the work of the Department are provided. Provision is made for high-speed, spot and serial radiography. Working conditions in the dark room are improved by conveniently placed film pass, good ventilation, automatic temperature regulation of processing tank, through-the-wall film dryers, wet film viewer and speaking tube.

An additional complete fluoroscopic and radiographic unit is provided for heart work, overflow and special radiography.

In connection with the urological clinic, two complete radiographic cystoscopic units are provided.

X-ray therapy equipment, providing voltage up to 200,000, is housed in a well ventilated and lighted room. Lead lining in the walls provides a wide margin of safety for the operator and other persons in the Department.

Adequate accommodations are provided for

General Radiographic Room (L. C. H.)

Reading of X-ray Films (L. C. H.)

the members of the staff, and a ventilated fireproof room is provided for film storage.

A shockproof unit is provided for use in the fracture clinic on the first floor which obviates the necessity of moving traumatic cases to the fourth floor for radiographic examination.

TEACHING: The hospital and clinics furnish an abundance of teaching material. Teaching falls into two categories, formal and informal.

Formal teaching consists of a course of lectures on roentgen interpretation in the first semester of the junior year and a clinical X-ray conference once a week throughout the junior and senior years. These conferences are conducted jointly by a surgeon, an internist and the roentgenologist. Students present cases which have been assigned to them on the wards and all phases of diagnosis and treatment are considered.

Informal. An increasing number of internes and students avail themselves of the privilege of observing at the fluoroscopic examinations and reading of films.

Students receive further instruction and experience in the use of the fluoroscope in the medical clinic where a fluoroscopic unit is provided for the use of the staff.

Deep X-ray Therapy (L. C. H.)

DEPARTMENT OF OBSTETRICS

Alice N. Pickett, M. D.

Associate Professor of Obstetrics, and Executive of the Department of Obstetrics

The new clinic building affords sufficient space and equipment for Prenatal and Postpartum clinics. It has a large teaching room, a manikin room, classroom for mothers and an isolation department for infected cases. In the main building, the third floor of two wings houses the Maternity Department proper. The equipment of the main building includes 53 obstetrical beds, 60 neonatal beds, two delivery rooms, two admission rooms, and four pain rooms. A large conference room is used for round table instruction and weekly staff meetings. A departmental laboratory, a small departmental library, and a registrar's office complete the set-up. The volume of the work done by the department insures abundant clinical material. From July 1, 1934 to July 1, 1935, the department had 1.963 admissions, 1,639 deliveries, and 6,224 visits to the clinics.

The teaching of obstetrics is carried out in the following manner:

1. Second Year Obstetrics: A lecture period on Normal Obstetrics is given one hour each week during the second semester of the second year for the purpose of acquainting the students with the elements of obstetrics.

2. Third Year Obstetrics: During the third year a course is required in Obstetrics. Throughout the year two hours each week is devoted to this subject. The teaching is done largely by lectures, quizzes, and class reading. Moving pictures are also used. Part of the work is done in class by assigning to the students topics which they read from their texts. A quiz on the subject covered follows immediately. Each student is required to observe and report two deliveries during the year, and to assist at home deliveries.

3. Summer Work in Obstetrics: Throughout the summer following the third year, a clinical course is offered the students of this class. Sections of eight men serve for three weeks. These men live in the hospital and work on the wards, in the clinics, and in the outpatient department. From these groups are chosen the captains of the out-patient sections for the following year. Elective.

4. Fourth Year Obstetrics: During the fourth year the full-time of each student for approximately six weeks is required for obstetrics. The group on the obstetrical section is divided into two parts, alternating with each other out-patient and house case work, and work in the clinics. The section as a whole attends ward rounds, round table conferences and manikin demonstrations. The only students excused at these hours are those engaged with active labor cases. The object of the course is to give each student a knowledge of the principles of safe, conservative obstetrics, and as much technical training as possible. The course covers the whole field of obstetrics. No formal lectures are given. Each group devotes thirteen hours each week

New Born (L. C. H.)

to ward rounds and round table discussions, and four hours each week to manikin training. Two hours a day for three days each week is spent in the Prenatal and Post-partum Clinics. Each student is required to deliver five outdoor cases, to act as assistant at five outdoor cases, to serve as assigned student on six house cases, at whose delivery he acts as sterile assistant, to give six anesthesias and to file observation records of twelve deliveries.

DEPARTMENT OF OPHTHALMOLOGY

Claude T. Wolfe, M. D.

Clinical Professor Head of Department of Ophthalmology.

The department of ophthalmology is particularly fortunate in having thoroughly modern equipment including a slit lamp, giant magnet, ophthalmoscopes and other modern instruments. In our new building the quarters assigned to this department lend themselves perfectly to the proper care of patients. Its numerous rooms discourage congestion and students can study their patients with very little disturbance. Members of the staff are present to help in diagnosis and treatment. A well equipped operating room is included where the minor operations upon the eye are done. The major operations are done in the hospital proper.

Didactic courses for second year students begin with a review of the anatomy and physiology of the eye, followed by instruction in routine methods of examination for purposes of diagnosis. A study of all the common eye diseases is made. Much time is given to the ophthalmoscope, slit lamp and the purpose of the giant magnet is explained. The common diseases of the fundus are illustrated by lantern slides.

Each third-year student is assigned in the ophthalmological dispensary for three and one half weeks, three hours a week. The third year student is assigned to a fourth-year student in working up cases, and is responsible for all clinical work. This dispensary affords excellent training in the use of the ophthalmoscope for the student is never at a loss to find a dilated pupil, which enables him to make a fundus examination more thoroughly.

The fourth-year student is assigned work in the dispensary also. His assignment includes two cases each day to work up with a third-year student. The cases when worked up, are presented to an instructor who not only checks the work, but reviews the case with the student if there is any question.

DEPARTMENT OF PROCTOLOGY

Bernard Asman, A. M., M. D.

Clinical Professor of Proctology

Students in their Junior year are given a course of lectures in Proctology, supplemented by recitations and quizzes, emphasizing anatomy and physiology, pathology, examination of patient, diagnosis, and treatment, operative and non-operative, of the more common ano-rectal diseases.

In their Senior year clinical lectures and quizzes are given in conjunction with the surgical clinics, which are held weekly, An opportunity for practical work is afforded students in the out-patient department and in the hospital wards where an abundance of clinical material is available. Here he learns correct methods of history taking and examination of patient, under the supervision of the instructor, and from time to time is assigned individual patients on whom he is required to take a complete history and make a complete general physical examination as well as special history and examination of rectum. He records the history he has taken, the scope of examination he has made (procto-sigmoidoscopic, etc., in addition to lower examination, or not) and in conjunction with laboratory findings, his diagnosis. If the case is one requiring surgery the patient is prepared for operation and at the clinic the student reads the history and the result of his examination, together with any comments he wishes to make. before the section of the class witnessing the operation, who in turn may ask questions or supplement the report. The operator of course describes the operation he is doing and utilizes any remaining time for additional teaching. Students in their ward rounds become familiar with post-operative care and observe the progress made following surgical operations. Later, again in the out-patient department a final check-up is made of results obtained.

Much emphasis in teaching is placed upon the importance of early diagnosis in malignant disease of the rectum and the student is taught the advantage of doing a biopsy in all doubtful cases. While easy of execution when the anal orifice or lower rectum is involved, it is more difficult when the site of the neoplasm is in the upper rectum or at the recto-sigmoid junction. A comparatively simple method of removing a piece of tissue from the upper rectum or lower sigmoid for microscopic examination by means of a long-handled biopsy forceps used through an electrically lighted procto-sigmoidoscope, is demonstrated.

LIBRARY

Blake Beem

Located on the first floor of the new addition to the building is the Library which has all modern equipment including firproof steel stacks, an automatic booklift connecting with the departmental libraries and mahogany furniture in the large reading room. It is open to students, faculty and practising physicians of Louisville and Jefferson County, during school hours, the evening hours of 7 to 10 and Saturday afternoons until 6 o'clock.

The combined libraries of the Medical School and Jefferson County Medical Society contain 25,000 volumes—bound journals, indexes, selected reference texts, the systems, society proceedings and transactions, medical bulletins and hospital reports and a large collection of reprints. There are regularly received 220 current subscriptions which represent the best of the American, English, French and German medical periodicals. In 1928 the sum of $25,000.00 was provided by the University to purchase files of important German medical journals. The Library continues to receive annually a special fund of $4,000.00 with which to buy back files and to pay for German subscriptions. The Jefferson County Medical Society each year makes a substantial financial contribution to the Library, the amount being matched by the University. This money is used for the purchase of textbooks and journals on clinical subjects and for binding these journals. The state medical society deposits here the various state medical journals received by exchange.

Photographs and biographies of local physicians, former and present faculty members, books and reprints written by them and autographed copies of their works are gradually collecting. There is also a small museum of old medical instruments.

A medical library for the use of the Staff is being organized at the City Hospital. This collections will consist of clinical journals, indexes, standard texts and the latest books on the specialties.

In the Librarian's office there is being built up a library of professional literature to aid in the administration of the Library according to the best modern methods.

It is singularly significant of the importance attached to a good library at the time of the founding of the medical school that $20,000.00 of the $50,000.00 given by Louisville was designated for books and specimens for an anatomical museum. A printed catalog of the Library dated 1847, recently found, lists titles that attest the good judgment with which the books were selected. Many of them today are collection items of value. Since the history of the library begins with that of the school, the old books remaining from that first library show an unusual number of early medical Americana as well as some of the best medical literature to be had in 1837.

Membership in the Medical Library Association has enabled the Library to fill many

Current Periodicals and Charging Desk, Main Medical Library.

gaps in the journal files through its exchange of duplicate material.

Members of the Centennial graduating class have voted to provide enough money to recondition the best of the early books and to build suitable cases in which to shelve them, as a befitting memorial to leave to the medical school.

As opportunity permits, books representing the historical background of medicine and the allied sciences are added. Thus the faculty and students have the advantage of studying the cultural aspects of their work.

Re-organization of the Library in new quarters has stimulated great interest on the part of the medical profession and families of medical men. This interest is being encouraged and it is hoped that all items on local medical history may be brought here. Already a great deal of good material has been received. This includes a great quantity of good current journals which can be used to advantage in exchange with other libraries, duplicates for circulation and reserve sets for the future.

Among the notable gifts received since moving into the new building is that of the Louisville Free Public Library medical collection of several hundred volumes containing some very fine medical classics and out-of-print journals which are unobtainable in the book markets.

Students receiving aid from N. Y. A. have worked with diligence and enthusiastic interest and efficiency in sorting, listing and shelving the vast amount of scattered unbound material. They have also assisted in the reading room, thereby releasing the regular staff for the more technical duties.

Inter-library loan privileges with the Army Medical Library and other libraries in this region provide the necessary research literature which is not available here.

Much teaching in present day medical education is done from the Library. This fact makes a knowledge of its use and of the resources of medical literature increasingly essential. Lectures to the student on the use of the Library are given each year by the Librarian.

Reading Room, Main Medical Library.

HISTORICAL SKETCHES OF DEPARTMENTS IN THE MEDICAL SCHOOL

ONE HUNDRED YEARS OF ANATOMY IN THE MEDICAL DEPARTMENT OF THE UNIVERSITY OF LOUISVILLE

Arch E. Cole, B. A. Ph.D.

Assistant Professor of Anatomy.

On February 22, 1838, Chancellor Bibb, in his oration at the laying of the cornerstone of the new building that was to house the Louisville Medical Institute, outlined the scope of the various departments or chairs of the Medical School. Concerning the Chair of Anatomy he intimated that that department served as the basis upon which the whole medical curriculum was built; that a thorough knowledge of the structure of the human body was preeminent in the practice of medicine. Accordingly we find that Anatomy was one of the major departments of the Medical School from its very beginning. Its history parallels that of the Medical School in its entire extent.

The first Chair of Anatomy in the Louisville Medical Institute was held by Dr. Jedediah Cobb, a graduate of Bowdoin College, who at the time of his appointment, occupied the Chair of Anatomy at the Ohio Medical College in Cincinnati. Dr. Cobb had already made an enviable reputation for himself as an excellent dissector and teacher of anatomy. During the first year of the Louisville Medical Institute he gave a series of lectures on anatomy to the medical students in the cold, dismal, uncomfortable rooms on the top floor of the City Workhouse, which housed the new medical school until the new building could be erected. Just what laboratory work was provided during the first year is not known, although a Demonstrator, Dr. William H. Donne, had been appointed to take charge of the work in Practical Anatomy. Dr. Donne may have been brought to Louisville by Dr. Cobb, for he was a graduate of the Ohio Medical College, and received the M. D. degree, ad eundem, in 1838 with the first graduating class of the Louisville Medical Institute.

In the fall of 1838, the new medical school edifice, erected at the corner of 8th and Chestnut Streets, by the City of Louisville at a cost of about $45,000.00 ($53,000.00 according to Dr. Yandell), was completed. This building provided excellent facilities for the teaching of all branches of the medical curriculum and particularly for Anatomy. According to the 1838 announcement of the Institute, the building contained on the third floor an anatomical amphitheatre capable of seating a thousand persons, spacious lecture rooms, as well as public and private dissecting apartments. Dr. Yandell described the Anatomical Amphitheatre as follows: "It is arranged upon the most approved plan with reference to demonstrations. In the rear of the professor's table are figures, in plaster of paris, of Venus and Apollo, for the illustration of the male and female form. This room is

Gross Anatomy Demonstration 1902.

lighted thoroughly by cupola and skylights.'' In the annual circular for the year 1842-43, four years after the completion of the building, the following description of the dissecting rooms is found: ''. . . . and that in addition to the great facilities for anatomical pursuits heretofore existing, the faculty have introduced gas lights into every part of the building. At every table occupied by four students there is a light fully equal to twelve candles. There are four such lights equal to fifty candles, in each of the dissecting rooms, 25 by 15 feet.'' There were at least four dissecting rooms which besides being well lighted, were also well ventilated. The physical equipment of the new school was pronounced by medical travellers to be the finest in the United States.

The circulars published during the early years of the Institute always announced that specimens or subjects for the dissecting rooms were ample or that ''in the increase of the commerce and population of the city we have a guaranty against any future deficiency.'' However, records in the faculty minutes and items gleaned here and there, indicate that subjects were, at least at times, very difficult to obtain and that the school ''resurrectionist'' was a very important, even if sub rosa, individual.

The occupant of the Chair of Anatomy delivered the anatomical lectures. All students were required to take at least two full courses of lectures or the equivalent before they were eligible for graduation. The lectures were given in the amphitheatre and were illustrated by materials dissected in advance. In the earlier days the professor apparently had to do his own prosecting and demonstrating, possibly assisted by the Demonstrator; later, a paid Prosector dissected the materials which illustrated the lectures and demonstrated them while the professor lectured.

The Demonstrator had charge of the dissecting rooms, but was under the supervision of the Professor of Anatomy. He demonstrated and taught in the dissecting room and was responsible for providing the subjects not only for his own laboratories but also for the Professors of Anatomy and Surgery. Until 1851, dissecting was optional with the students; they were, however, urged to take the ticket of the demonstrator, ''on account of the utility of dissections as well as the uncommon facilities afforded for their prosecution.'' That many of the students availed themselves of these opportunities is attested by the record that in 1847 of the 349 students in the Medical School, (since 1846 known as the Medical Department of the University of Louisville), 216 were taking the demonstrator's ticket and all were supplied with subjects. Just how this large number of students was accommodated in the available space is not known. There was possibly considerable overlapping, for it is well established, that when subjects were available, dissecting progressed as rapidly as possible in order that the material should not be kept in the laboratories any longer than necessary. At the end of the dissection the students were allowed to dispose of the remains in any way which they saw fit. The skeleton was usually cleaned and prepared and the students drew lots for its possession. All formal dissecting was carried on at night, the days being spent by the students in the attendance on lectures.

For many years after the school was founded the Dissecting Rooms were open for from two to five weeks before the formal opening of the session and students were urged to begin their dissections early. Also courses of lectures on anatomy and other subjects were given, apparently free of charge, to students who enrolled for the regular session (this presumably as an added inducement for securing students).

For the most part, directions for dissections were given orally by the Demonstrator or his assistants, who also checked and aided the students in their dissections. In the earlier years the Demonstrator did much of the actual dissecting, but later the students, in groups, were responsible for the demonstration of all parts. One gathers also that the emphasis in the dissecting room was placed on muscles, bones, and joints and that little or scant attention was placed on the abdominal and thoracic viscera. Regardless of the fact that the medical student was at first urged and later required to take the course in dissecting, the examinations which were given in Anatomy covered only the didactic work. The Demonstrator never sat in on the examinations nor did the dissecting room work count in the final grading of the student.

Besides the facilities already mentioned, the students of Anatomy were also provided with an excellent library and an Anatomical Museum containing, not only the beautifully dissected specimens which were purchased from Dr. Cobb, but many preparations, models, and charts obtained in Europe by Dr. Joshua B. Flint. The museum had tendencies toward comparative anatomy and natural history, for those great men of the early faculty were very aware that the medical man was primarily a biologist and as such, was interested in things biological.

Dr. Jedediah Cobb, the first occupant of the Chair of Anatomy, remained in that capacity till 1852, when he resigned and re-

Gross Anatomy Class 1922.

turned with Dr. Daniel Drake to the Ohio Medical College in Cincinnati. He was an excellent teacher and lecturer. Dr. David Yandell said of him: "He stripped the intricate points of anatomy of their obscurity and lodged them in the mind of even the dullest of his hearers. He had great suavity of manner, and was a prime favorite with the students." Dr. Samuel Gross admired him greatly both as a teacher and an anatomist. His accuracy as an accountant was proverbial and for that reason he served as Dean of the faculty for many years. In those days the Dean was elected by the faculty and his principal duty was acting as treasurer of the school. Dr. Cobb had a great aversion to writing, consequently he left no literary record.

Dr. W. H. Donne, the first Demonstrator of Anatomy, served until 1842. Dr. Donne was a practicing physician in Louisville and a very frequent contributor to the local medical journals. He was succeeded by Dr. George W. Bayless, who acted as Demonstrator until 1848. Dr. Bayless had been a member of the first class at the Louisville Medical Institute and had served in 1840 as Dissector for the Pathological Cabinet. He resigned his demonstratorship to accept a chair in the Ohio Medical College but soon returned to Louisville and for many years was again connected with the University of Louisville in various capacities, being at one time drafted to serve as Professor of Anatomy.

The third Demonstrator of Anatomy was Dr. Tobias Gibson Richardson, a private student of Dr. Gross, and a graduate of the University of Louisville in the class of 1848. He was appointed Demonstrator of Anatomy immediately following his graduation and served as such until 1856, when he accepted the Chair of Anatomy at the Medical Department of Pennsylvania College. He later became Professor of Surgery at the University of Louisiana (now Tulane). Dr. Richardson was an outstanding anatomist and an excellent teacher. Encouraged by his old friend and preceptor, Dr. Gross, he published in 1854 his "Elements of Human Anatomy." It was the first textbook of anatomy to be written west of the Alleghenies and was long standard, especially in the Southern medical colleges. The book reflects Dr. Richardson's methods of teaching and the scope of his course. It was the first to use anglicized names in place of the Latin anatomical terms. His descriptions were clear, graphic and concise, and were illustrated by nearly 270 woodcuts. The 734 page text was divided into three parts. The first (about 80 pages) was concerned chiefly with histology. This material, however, could not have been demonstrated in Richardson's laboratory except in a very gross manner, for microscopy as yet had not been introduced into the curriculum and there is no record of the use of even the simplest microscope during this period. In fact, Dr. Richardson advised his students to get a piece of fresh meat from the butcher and from an examination and study of it to be able to recognize the various tissues of which it was composed. The second section

(150 pages) was devoted to a description of the bones and joints. The third part and by far the largest portion of the book (nearly 500 pages) was devoted to a description of the soft parts of the body. Written from a regional standpoint, it took up first the abdomen, then the perineum and pelvic region, the inferior extremity, the head and neck, the thorax, and finally the superior extremity. The descriptions were frequently interrupted by short paragraphs of directions for dissection. It thus served the student not only as a descriptive anatomy but also as a dissecting guide. Adequate emphasis was placed on the viscera. If the student followed these directions consecutively and conscientiously, he certainly would have had a well rounded course in practical anatomy and would belie the statement that medical students might recognize the names of structures but were wholly unable to recognize the structures themselves.

It was during Richardson's regime that dissecting became a required course in the curriculum of the Medical Department of the University of Louisville.

Dr. Richardson apparently had several assistants working in the laboratory under him. One of these, Dr. David Yandell (in 1850) was destined to become an outstanding member of the faculty, occupying for many years the Chair of Surgery. It is of considerable interest to note that many of the men who were later connected with the Chairs of Surgery, Medicine, Chemistry, etc. received their first teaching experience as Demonstrators or Assistant Demonstrators of Anatomy. Furthermore, the men of the early Medical School faculty, while in a sense specialists, were of the old school in that they were so well trained generally that they could and did switch from one department to another and were successful and efficient teachers regardless of the chair which they happened to be holding. The early faculty were indeed a group of illustrious men. It is very conceivable that the phenomenal rise of the Medical Department of the University of Louisville was in no small measure due to the greatness and magnetism of its faculty.

Following Dr. Cobb, Dr. Benjamin Rush Palmer was elected to the Chair of Anatomy. Dr. Palmer had received his training in Woodstock Medical College (Vermont), graduating in 1834. He served as Professor of Anatomy and Physiology in his alma mater, and later in Berkshire Medical School and Buffalo Medical College. He gave his first lectures in the University of Louisville in 1852. He remained as head of the department until 1858 when, at the resignation of Dr. Miller, he was transferred to the Chair of Surgery. During his administration of the department its scope was broadened and its name changed to the Department of Descriptive and Surgical Anatomy. Dr. L. P. Yandell gave the following description of his course: "While he gives a description of the entire structure of the human body, dwells with special emphasis upon such parts as are most essential to be known, he demonstrates with great fullness not only the surgical anatomy of the human body, but the structure and topographical relations of the great viscera. In his demonstrations, where he finds it advantageous, he has recourse to the ample suites of models in the museum, but relies mainly upon the recent subject for his materials. He is careful to point out the healthy appearances of the viscera, in order that marked changes may be readily recognized and appreciated. With the fine facilities afforded for the pursuit of practical anatomy students are urged to fill up with their own hands in the dissecting rooms the outline given from this Chair."

Dr. Palmer was much interested in microscopy and the introductory lecture of 1853 was delivered by him on that subject. This was the same year that the faculty decreased the vacations during the session to two days, Thanksgiving and Christmas. Dr. Palmer recommended several textbooks to his students in his anatomy lectures: Wilson, Pancost's Wistar, Cruveilhier, Sharpey and Quain, from which the student could make his choice. It is of interest to note that Richardson's text was not recommended for the lectures, although Richardson used it in his laboratory.

During the latter part of Palmer's headship of the department, the Medical School was destroyed by fire (1856) and classes had to be continued in the amphitheatre of the Marine Hospital. Just how the new Demonstrator, Dr. Archie B. Cook, conducted his anatomy laboratory at the hospital is not known. However, the following session found the Medical School installed in a new edifice, erected at the site of the old building. The physical set up of the new anatomy laboratories was quite different. Instead of several smaller rooms, one long room on the west side of the second floor was provided. Here were two rows of dissecting tables each accommodating six students. The room was well ventilated and lighted by gas. This building still stands on the corner of 8th and Chestnut Streets.

Dr. Palmer was succeeded in 1858 by Dr. Joseph Wesley Benson, Canadian born, a graduate of the University Medical College in New York in 1847. He had previously been Professor of Surgery at Oglethorpe Medical College in Savannah, Georgia. For two years (1860-62) during this period, General Physiology was taught in the Anatomy Department, and Dr. Benson delivered these lectures. Dr. Benson was apparently a colorless individual as far as his profession was concerned. No statements can be found concerning his ability as a teacher, although he acted as co-editor of the Semi-Monthly Medical News. However, his stay at the University of Louisville was indeed eventful. Dr. Benson was evidently a very ardent Southern sympathizer during the War between the States. In fact his enthusiasm must have overcome his discretion, for we find that in the latter part of 1863 he was arrested and thrown into military prison in Cincinnati. The aid of President Lincoln was sought in his behalf and obviously with some success, for he signed the faculty minute book as Dean later in the school year (1864). In the meantime, Dr. Palmer of the Department of Surgery, gave the anatomy lectures. However, Dr. Benson was again in prison at the beginning of the 1864-65 session and resigned his Chair. The faculty, believing his incarceration to be only temporary, refused to accept his resignation, and temporarily transferred Dr. Bayless from the Chair of Physiology and Pathological Anatomy to Anatomy. But Dr. Bayless lectured on Anatomy for the full session, and later in 1865, Dr. Benson having come to trial and been given a two year (?) sentence, the faculty declared the Chair of Anatomy vacant, and elected Dr. James M. Holloway, a graduate of the Medical Department of the University of Louisiana and a surgeon in the Confederate Army, to the position.

Dr. Holloway remained only a year as Professor of Anatomy. In the summer of 1866 there was a great internal disturbance in the faculty and a greater misunderstanding with the Board of Trustees. After much wrangling the Medical Department of the University of Louisville finally absorbed the Kentucky School of Medicine (an outgrowth of Funk Seminary) and Dr. Holloway became Professor of Physiology; Dr. Benson, now released from prison, was appointed to the Chair of Clinical Surgery; and Dr. James M. Bodine, Professor of Anatomy in the Kentucky School of Medicine, was elected to the Chair of Anatomy.

Some of the Demonstrators during Dr. Benson's regime were outstanding. Dr. Archie B. Cook, a graduate of the University of Louisville in 1853, was appointed Demonstrator in 1856. He was much interested in surgery and contributed frequently to the current medical journals. He resigned in 1863 to become the Professor of Surgery and Diseases of the Genito-Urinary Organs and the Rectum, in the Kentucky School of Medicine. He was succeeded by Dr. Thomas B. Satterwhite, a very brilliant and colorful physician of the city, an honor graduate of the University in the class of 1857. In 1859 Dr. Satterwhite with Dr. John Goodman established the Eastern Dispensary, the first institution of its kind in the city. In 1863 they built a dispensary building on the University of Louisville Campus which, although it remained under the control of Dr. Satterwhite became an adjunct of the Medical School.

The description of the course of Practical Anatomy (Dissecting) in the catalogues of this period continue to state that the supply of subjects for the dissecting room was more than adequate. However, an incident occurred during Dr. Satterwhite's first year of demonstratorship which indicated the difficulties attendant to the procuring of bodies. On December 21, 1863, Dr. Satterwhite came before the faculty and made the statement that he and the janitor (resurrectionist) and a student, P. C. West, had been arrested having "subjects" in their possession; that the Grand Jury had indicted them and that the case would be tried the first Monday in January. He asked the faculty to assume whatever fine might be imposed on the janitor and West. However, the faculty were not so inclined because according to the agreement, the Demonstrator was responsible for all expenses connected with the dissecting room. The task of securing an adequate number of subjects must have been a trying one for not only did the Demonstrator have to supply the needs of his own laboratory but also the requirements of the Professors of Anatomy and Surgery and the Demonstrator of Surgery as well. All unclaimed bodies could be used by the Medical School but the number of such deaths in Louisville was relatively small, and the necessity for obtaining bodies in an irregular manner must have been very great. That this was undoubtedly true can be assumed by the sudden rise of the janitor, who also served as the resurrectionist. Because of his "inside information" he forced the faculty to elevate him first to clerk, then to registrar of the Medical School with an attendant 100 per cent increase in salary. Thus the evolution of a janitor. Students were not supposed to participate in the procurance of subjects, but if tales are to be believed, many students supplemented their income by engaging in such activities.

Many stories are current regarding the escapades of various students in the procuring of bodies. The following was told to me, as authentic, by a physician who began his medical training at the University of Louisville in 1879. A student and the resurrectionist had "acquired" a body and were returning to the Medical School. They were riding in an open cart, and to avoid suspicion had propped up the body in a sitting position between them. The night was very cold and the gentlemen in question felt the need of liquid refreshments, consequently they stopped at a grog shop and procured drinks and also a bottle of liquor for further fortification. Their actions were observed by some of their classmates, who in their absence removed the body from the cart and one of the practical jokers took its place. On leaving the grog shop the "snatchers" crawled into their cart on either side of the body, but before continuing their journey decided that the time had arrived for a second drink. As the bottle was passed from one to another the supposed cadaver in a deep voice said, "Give me a little drink of that," whereupon both the student and the resurrectionist departed in a most undignified fashion much to the amusement of the jokers who did not let them forget the incident for many a day. Believe it or not.

The condition of the subjects when brought into the laboratory was not always all that could be desired. They were usually embalmed with either an arsenic compound, sodium hyposulphite, or zinc chloride, and the arteries were often-times further injected with either hot tallow or plaster of paris to "render them more easy of dissection." If the subjects were not be used immediately (which did not often happen) they were apparently immersed in vats of perserving fluid. The faculty minutes record the authorization of Dr. Holloway to purchase a large metal lined vat and sufficient coal oil to be used for preserving specimens. Regardless of all this treatment, many reports, even in relatively recent times, indicate that the dissecting room, was, from the olfactory standpoint, always extremely disagreeable, and that the materials were soft and friable. As a partial compensation, students were always allowed to use tobacco in any form, in the dissecting room. The freshest and best preserved materials invariably had to be given to Surgery where they were used by the students in practice operations. These operations were mainly amputations of the extremities at various levels, beginning distally and progressing proximally. After use in this laboratory the parts could be reassembled. It is reported that when the supply was low, bodies were rented, operated upon, assembled, and returned to the relatives for burial. I have been told that in emergencies rented bodies were procured and shipped into Louisville from the larger eastern cities. Such were the trials and tribulations of the Demonstrator of Anatomy.

Dr. Satterwhite had as his assistants, Dr. E. R. Palmer (M. D., U. of L. 1864), the son of Dr. Benjamin Rush Palmer, and later Dr. J. D. Burch (M. D., U. of L. 1857) who came from the Kentucky School of Medicine. But he had difficulties with both of them. That the trouble was not wholly due to the assistants is attested by the fact that the students petitioned the faculty to remove Dr. Satterwhite. The situation was cleared up in 1868 by the appointment of Dr. Palmer to the Chair of Physiology and Microscopy, the resignation of Dr. Burch to become Dean of the Louisville Medical College, and finally by the resignation of Dr. Satterwhite to enable him to devote his full time to his very extensive private practice. While Demonstrator, Dr. Satterwhite made a very definite contribution to the teaching of anatomy in Kentucky. He spent considerable time and effort in furthering a bill before the Legislature in Frankfort, which legalized dissection of the human body.

Probably the most outstanding individual connected with the Department of Anatomy was Dr. James Morrison Bodine. Dr. Bodine was a native of Kentucky, attended St. Joseph's College, Hanover College, and The Kentucky School of Medicine from which he was graduated in 1854. In 1856 he became Demonstrator of Anatomy at his alma mater. Ill health caused him to resign after one year and he moved to Leavenworth, Kansas where he established a practice. He immediately became a leader in medicine in his adopted state, founding and becoming the first president of the first medical society to be organized in Kansas. He later organized the first hospital in the state and was placed in charge of it. He returned to Louisville in 1862 and two years later accepted the Chair of Anatomy in The Kentucky School of Medicine. This he held for two years. In 1866 The Kentucky School of Medicine united with the Medical Department of the University of Louisville and Dr. Bodine became Head of the Department of Anatomy. This union lasted for but a year, but Dr. Bodine continued with the University of Louisville serving the Chair of Anatomy in an active capacity for forty-six consecutive years. He became Professor Emeritus in 1912. Except for a very few years he served as Dean of the Faculty. He continued his leadership in medical affairs. He was instrumental in founding the American Association of Medical Colleges and was elected president of that body at its sixth session in 1881. He later was one of the founders and first president of the Association of Southern Medical Colleges. He guided the Medical School through the trying years of competition for students among the Southern medical schools, maintaining the standards of his school without too great a decrease in enrollment. He was instrumental in the final merger of the various Louisville medical schools in 1907 and 1908. He served as a member of the Louisville Board of Health, was a member of the Louisville City Hospital Staff and enjoyed as well a considerable private practice.

As a man he was quiet, gentle, dignified, carefully groomed, a gentleman in every respect. He was inclined to become a little nervous under pressure which might be shown by a quickening of his speech, but it did not affect the calm and logical processes of his mind. It is said that his nearest approach to profanity was the use of the phrase, "Oh, pshaw."

As a teacher he was outstanding. His knowledge of the morphology of the human body was prodigious and his memory phenomenal. He was an eloquent lecturer and his oral descriptions, while including minute details, were lucid and perspicuous. Certain of his lectures, particularly the ones on the liver, were very flowery. He was in the habit of reciting a poem entitled "To a Skeleton," to his class, which became a traditional part of his course. His students never allowed him to omit it. The first stanza is here quoted:

Behold this ruin: 'Tis a skull
Once of ethereal spirit full,
This narrow cell was Life's retreat,
This space was thought's mysterious seat.
What beauteous visions filled this spot?
What dreams of pleasure long forgot?
Nor hope, nor joy, nor love nor fear,
Have left one trace of record here.

He had the reputation among the students of being one of the most popular and beloved of their professors. Although he always employed prosectors, he never entrusted them with the duty of demonstrating the dissections. During his lectures he demonstrated with his own hands, in a very painstaking and patient manner, the relationships of the various structures under consideration.

As would be expected, many changes in the teaching of anatomy came about during Dr. Bodine's long regime. He very early instituted quiz sections, devoting a portion of his lecture period to an oral examination of his students. Later he authorized his prosector to conduct formal quiz periods which, although optional, were attended by the majority of the students. He was very much interested in the anatomy and surgery of the eye, and for a period beginning 1874 his department was known as "Anatomy, and Operative Surgery of the Eye." From 1872 to 1894 the Medical School conducted a Summer Session, and Dr. Bodine and his Demonstrators always gave lectures on Anatomy, Applied Anatomy, or on special allied subjects. For a period, during the eighties, dissecting was also offered during the summer. Beginning in 1890, the students were required to take two courses in anatomy, but the second course was little more than a repetition of the first. Later, the material was divided so that a part of the work was given the first year and the remainder the second year. The second course in anatomy added an extra burden on the students but the next year, 1891, this was compensated for when the Medical Department was made a three year school. A short time later, 1895, it became a four year school.

In 1907 arrangements were completed whereby the Medical Department of Kentucky University was merged with the University of Louisville, and the next year saw the consolidation of the remaining medical schools in Louisville, The Kentucky School of Medicine, The Louisville Medical College, and The Hospital College of Medicine, uniting with the Medical Department of the University of Louisville and retaining the name of the latter. The Louisville Medical College building at 1st and Chestnut Streets being the largest and most modern building, was selected as the home of the combined schools, in which capacity, with many alterations, it still serves.

At the time of the merger, several anatomists from the other schools were added to the staff of the Anatomy Department: Dr. Clint W. Kelly from The Louisville Medical College; Dr. W. E. Grant from the Medical Department of the University of Kentucky, and Dr. George B. Jenkins from The Kentucky Medical School.

The Demonstrators of Anatomy under Dr. Bodine were very numerous and space here does not permit to mention more than a few of the outstanding ones. Following Dr. Satterwhite, Dr. Richard O. Cowling became Demonstrator from 1868 to 1872. He was transferred to the Department of Surgery and in 1873 was elected to the Chair of Surgical Pathology and Operative Surgery. He was a large man, both physically and mentally; was a fluent, forcible lecturer; a brilliant, witty, comprehensive writer; generous to a fault. He is reported to have owned the first microscope in Louisville. That he had his troubles in providing his laboratory with subjects is indicated by the fact that he was once challenged to a duel as the result of an argument over the disappearance of a body. Fortunately, the authorities intervened. During his demonstratorship, the Demonstrator's Ticket was reduced from ten dollars to five dollars, but this fee did not even meet the expenses of the laboratory and the next year it was raised to its original amount. During the same period, various members of the staff, as well as local book, drug, and instrument shops, offered prizes to the students for the best dissections, the best dissertations on anatomical subjects, or the best prepared specimens, the latter to become the property of the Anatomical Museum. This practice was shortly discontinued because the faculty felt that it placed too much emphasis on a single course.

Of the many assistant demonstrators under Dr. Cowling, mention should be made of Dr. J. W. Holland, who later (in 1869) became Professor of Medical Chemistry and Toxicology, and Dr. W. O. Roberts, who after Dr. Cowling's transfer, acted as Demonstrator from 1873 to 1881. In 1881 he was appointed Adjunct Professor of Surgery, with which department he was connected for many years. In 1874 Dr. W. B. Doherty was assistant demonstrator. He later became Professor of Obstetrics. Dr. Doherty is one of the oldest graduates of the Medical School (1872) and still lives in Louisville.

In 1874, Dr. H. A. Cottell, who had graduated from the Medical School in 1872, was appointed Prosector to Dr. Bodine and the next year, was, in addition, made Assistant Demonstrator. These positions he held until 1882 when he was transferred to the Department of Chemistry. In 1885, he was appointed to the Chair of Chemistry and Microscopy. Dr. Cottell was a very cultured gentleman, an exceptionally eloquent and interesting lecturer, a favorite among the students. In his private practice he was especially interested in nervous diseases.

In 1875, Dr. Richards B. Gilbert, a graduate of the University of Louisville Medical Department in 1868, was appointed Assistant Demonstrator of Anatomy under Dr. Roberts. In 1881, when Dr. Roberts left Anatomy, Dr. Gilbert became Demonstrator which position he retained until 1906 when he became Professor of the Diseases of Children, a specialty in which he had always been interested and upon which he lectured in the Summer Session for many years. Aside from his practice and medical school duties, Dr. Gilbert was much interested in civic affairs, took his politics seriously, at one time incurring the ire of the faculty for his activities in a school board election. His long service attests to the excellency of his teaching and his efficiency in conducting his laboratory. During his management many important changes were brought about in the laboratory. In 1893 the laboratory was lighted by electricity. In 1894 the Legislature passed the Anatomical Act of Kentucky, which, although it more strictly regulated the disposal of bodies, yet greatly facilitated the legal procuring of subjects for the dissecting room. Presumably during this period the practice of injecting the bodies with formaldehyde was instituted. In 1903 the special fee for the Dissector's Ticket was discontinued and became a part of a general fee which was levied against all students.

Three assistants of Dr. Gilbert should be mentioned: Dr. L. S. McMurtry who came from The Kentucky School of Medicine but remained only from 1882 to 1885; Dr. D. L. Washburne, who served as Prosector, Assistant Demonstrator, and Lecturer on Anatomy in the summer session, from 1885 to 1895; and Dr. Edward David who served in the manifold capacities of Prosector, Quizmaster, Assistant Demonstrator, and Assistant to the Professor of Diseases of Children from 1896 to 1906. He later also became Registrar of the School.

Since the merger of the medical schools of Louisville in 1907 and 1908, the preclinical courses of the Medical School have been taught in the building located at First and Chestnut Streets, previously occupied by The Louisville Medical College. The Anatomy Department inherited, on the top floor of that building, a large room, floored with tile and supplied with water and electricity, well ventilated and lighted. This room, with few alterations, still serves as the Gross Anatomy Laboratory. Besides the change in "home" many changes took place, in the teaching of Anatomy. These changes were brought about not suddenly but came on gradually over a period of years. The outstanding change came in the closer correlation of the lectures in anatomy with the laboratory work resulting finally in the complete abolishment of formal lectures. With the decrease in the number of medical schools competing for bodies and the better administration of the Anatomical Act, the time finally arrived when the statement that the laboratory was amply supplied with materials, had a factual basis. Bodies were obtained shortly after death, were better embalmed, and consequently arrived at the dissecting table in better condition. This resulted in a greater ease and accuracy of dissection, and greater cleanliness and satisfaction in its prosecution.

The lectures already had been extended through two years, and at this time the laboratory was expanded to cover the second year. Night dissection was discontinued and the laboratory work was conducted during the mornings. Embryology was begun as a separate course in Anatomy, and Histology, which had been previously taught in the Department of Physiology, (later a separate department), was incorporated in the Department of Anatomy (1913).

The catalogue of 1911-12 contained a description of the course in Gross Anatomy which may be considered as characteristic of this period:

FIRST YEAR ANATOMY

"First. A disarticulated skeleton is loaned to each first year student, which he keeps during the year for study and for reference in connection with his dissection and osteology. The first three or four weeks of the first year course are spent in a thorough study and sketching of the bones in the laboratory."

"Second. Dissection of the arm, neck, head, and lower extremity. So far as possible, each first year student begins with the dissection of the arm and proceeds with that of the neck and head. Special attention is given to the dissection of the eye, middle and inner ear, nose, and larynx. Muscles, nerves, and blood vessels are all required to be traced out and carefully preserved until after a satisfactory practical examination has been passed; then each student is required to make a careful dissection of the joints and ligaments.

Courses one and two require 10 hours per week for 20 weeks."

"Third. Demonstrations. Special dissections, models, and charts are demonstrated to one section of the class and repeated to the other sections. Three hours per week for 20 weeks."

SECOND YEAR ANATOMY

"Fourth. Dissections of the Abdomen, Pelvis, Thorax, and Viscera. Special attention is given to the surgical anatomy of the herniae and to the topography and relations of the viscera."

"Fifth. Dissection of the Spinal Cord, Brain, and Membranes. A formalin-hardened brain is carefully dissected by each student. The topographical and surgical anatomy of the brain are worked out with the aid of skulls and special preparations. The gross and topographical anatomy of the spinal cord are carefully traced out by dissection and drawings."

"Sixth. Histology of the Brain and Spinal Cord. The gross anatomy of the central nervous system is followed by the study of Weigert-Pal, Golgi, and other sections of the spinal cord and brain, in order to trace the origin and course of the main fiber tracts and the origins of the nerves.

Courses Four, Five, and Six require 10 hours per week for 20 weeks."

"Seventh. Demonstrations and Applied Anatomy of the abdomen, pelvis, thorax, and central nervous system. These demonstrations are given to sections of the class following closely the work done in the dissecting room. Three hours per week for 20 weeks."

"Eighth. Didactic lectures, quizzes and recitations. Four hours per week to both first and second year classes."

Directions for dissection were usually given orally, although Cunningham's "Manual of Practical Anatomy" and a dissecting guide prepared by the staff were used at various times.

Beginning in 1910, Gross Anatomy was taught also to the students of the Dental School which had recently become a part of the University of Louisville. This arrangement is still extant.

Some outstanding men were connected with this era in the history of the Medical School. Dr. Kelly lectured in Anatomy from 1908 to 1918. Some of his lectures were brilliant; some were marked by genuine humor. Although he was a favorite with the students, his lectures were not arranged in logical sequence and so lost much of their effectiveness. Dr. Jenkins, although he gave some lectures in Gross Anatomy, devoted much of his time to Embryology and Histology. Dr. Joseph H. Hathaway, a graduate of Johns Hopkins, was the first full time man in the Anatomy Department. He was appointed Professor of Anatomy in 1909 and continued until 1912. Although he taught Embryology, yet much of the lecturing in Gross Anatomy fell to his lot. He left in 1913 and Dr. Jenkins who had spent the previous year at Johns Hopkins, returned and acted as Chairman until 1917, when Dr. Charles Brookover was appointed head of the Department. Dr. Brookover was interested primarily in Histology, Embryology and Neuroanatomy in which field he made worthwhile contributions to the knowledge of the nervus terminalis. Gross Anatomy was taught by Dr. Heman Humphrey and his assistants. Dr. Humphrey was a graduate of the Medical School in 1904 and had been appointed Prosector and Demonstrator of Anatomy under Dr. Bodine in 1906. He acted as prosector during the remainder of Dr. Bodine's professorship, but the demonstratorship he continued to hold, his title being changed in 1912 to that of Adjunct Professor of Anatomy. His duties remained the same, namely that of supervising the teaching of Anatomy in the dissecting room. In this capacity he continued till 1922, even giving many of the lectures during the later years. He had many assistants; one of these, Dr. P. L. Mull, should be mentioned in-as-much as he was a Professor of Gross Anatomy in 1922.

In 1922 Dr. S. I. Kornhauser was appointed a full time Professor of Anatomy and head of the Department, which position he still occupies. Dr. Kornhauser is a microscopist and is actively engaged in the teaching of Embryology and Histology. The next year, 1923, he brought Dr. Sydney E. Johnson from Northwestern University Medical School to direct the work in Gross Anatomy in which capacity he still serves although he now devotes a portion of his time to Roentgenology at the City Hospital. Under him have served or are serving the following men: Dr. Heman Humphrey who continued until 1924, to give the course in Applied Anatomy to the second year students; Dr. S. J. Hathaway who taught Dental Gross Anatomy, Neurology and Applied Anatomy from 1923 to 1926; Dr. James B. Rogers, who came with Dr. Johnson from Northwestern as an Assistant and is now an Associate Professor in charge of Dental Gross Anatomy, Neuroanatomy and Applied Anatomy; Dr. Arch E. Cole, an Assistant Professor in Gross Anatomy and Neuroanatomy, and Dr. Edmund K. Hall, an Instructor both in Gross and Microscopic Anatomy. In addition, there have been numerous part-time student assistants which space does not permit to mention.

The Gross Anatomy curriculum, with frequent minor changes, has been essentially the same for the past fourteen years. With the exception of the one course in Applied Anatomy, given for years to the sophomores but just recently offered in the fourth year, it is confined to the freshman year. No formal lectures are scheduled. All teaching is done in the laboratory, with lecture-quizzes to summarize and emphasize the week's dissection. Materials are abundant, well preserved and well injected. A complete body is furnished to every two students. Each individual is responsible for the regional dissection of his own part under the constant supervision of the staff. Five afternoons during the first semester and four during the second semester are spent in the laboratory. The last eight weeks of the second semester are devoted to Neuroanatomy. For a long time Cunningham's "Handbook of Practical Anatomy," was used as a dissecting guide, but recently "Regional Dissections of Human Anatomy" by Drs. Johnson, Rogers, and Cole has been in use.

In the spacious, well lighted, well ventilated laboratory, humidor type dissecting tables, designed by Drs. Johnson and Kornhauser, are used. During the recent remodeling of the building in 1935, a type of overhead lighting, devised by the staff, was installed, which furnishes each student with an adjustable focusing light. Batteries of stereoscopic viewers, X-ray viewers, skeletons, charts, models, and a fluoroscopic machine are at the disposal of the students. Loan collections of bones are provided for the study of osteology. In short, a well equipped laboratory offers every aid to the students in their study of Gross Anatomy.

AN HISTORICAL SKETCH OF THE TEACHING OF HISTOLOGY AND EMBRYOLOGY IN THE MEDICAL DEPARTMENT OF THE UNIVERSITY OF LOUISVILLE

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Histology as a subject taught to medical students had its introduction into the curriculum in the fall of 1868 under the professorship of Edward Rush Palmer, M. D., thirty-one years after the establishment of the Louisville Medical Institute, the forerunner of the Medical Department of the University of Louisville. The science itself is even younger than the University, if we regard the publication of a formal text book as a criterion for the birth of a science. Henle's text appeared in 1842, the first text book of histology published in any language. The formal announcement in the catalogue of a professorship in histology appeared some two hundred years after the invention of the simple microscope by Anton van Leeuwenhoek. Our own University was founded one year earlier than the year in which Schleiden and Schwann advanced their cell theory, a theory upon which histology rests so heavily. The subject matter taught and the method of presentation must have been meager and crude but the authorities were wise in recognizing the subject as a legitimate exercise for medical students.

The humble beginning of this young science in our school is shown by a statement which appeared in the catalogue for the year 1878-79 which reads as follows:

"Practical Physiology"

"In the laboratory will be shown physiological processes, reactions of proximate principles and microscopic sections of tissue elements." We have no statement as to the exact nature of the teaching of histology from its inception in 1868 to the publication of the above quoted passage. We have a fair estimate of the interest taken earlier in microscopical anatomy by a statement given in the Introductory address in 1853 by Benjamin Rush Palmer, the father of the man who became the first teacher of histology in our school. In this statement Prof. Palmer disapproves of those who see no need for students to know "that the ultimate muscular fibrilla has a breadth of nine thousandths of an inch" or "the importance of knowing that the healthy blood contains three parts in the thousand, of the element, called fibrin." We see here in the early teachers of medicine not only a concern in the practical application of science, but a deep seated interest in pure science itself.

The teaching of histology in the University may have had an humble beginning but its savants had a clear conception of its value as a part of the medical curriculum. This was emphasized by the fact that it was taught from a functional point of view from the beginning; as noted above, it was presented to the students as an exercise in practical physiology.

Prof. Edward Rush Palmer held the professorship of Physiology and Histology from 1868 to 1880. In 1873 he began to teach physical diagnosis as well. In 1879-80 L. S. Oppenheimer, M. D., assisted Prof. Palmer in Physiology and Histology as well as being Demonstrator of Vivisection.

In the fall of 1880 the school increased its laboratory facilities considerably. Under the following heading, the catalogue for this year made the following announcement:

"SPECIAL AND OPTIONAL MANIPULATIVE COURSES"

"The continued success of practical exercises in laboratories especially fitted with Beck's microscopes, sets of chemical reagents, manikins, ophthalmoscopes, etc., has confirmed the wisdom of the faculty in instituting these courses. Every facility and all needful apparatus are furnished to make these teachings of permanent value to the student. It is especially recommended that first course students should take Medical Chemistry and Microscopy, for which a fee of $5.00 will be charged."

L. S. Oppenheimer was Demonstrator of Histology and Microscopy for two sessions from 1879-1881. Whether histology and microscopy were still a part of the teaching in Physiology or not cannot be discerned from the catalogue. The minutes of the faculty do not throw any light on this point.

In 1881-82 H. A. Cottell, M. D., became a Demonstrator of Medical Chemistry and Microscopy; both subjects remained optional with the student. In the following year the notice concerning the course in microscopy is of interest in its announcement concerning the wider range of facilities and subject matter offered to the students. The announcement reads as follows:

"MICROSCOPY"

"A large, well appointed and well lighted room furnished with tables and forty sets of chemical reagents and apparatus is set apart for the use of classes in this course.

The class is taken in sections of manageable size, and each member is taught the handiwork of microscopy on actual specimens provided for experiment. Each student is taught how to use the microscope in medical investigation. A full collection of Beck's microscopes, mounting apparatus, with healthy and diseased specimens, mounted and unmounted, are at the service of students who are expected to make use of them under the immediate direction of the Demonstrator. Living phenomena are exhibited on frogs and fishes, etc."

Immediately following this description of Microscopy it is also announced that "a post graduate course is offered in microscopy." The reader will also gather from the notice that the students are expected to make use of these facilities. Evidently Microscopy is still optional.

One notices further that living phenomena were also exhibited on frogs and fishes. The subject matter taught concerning living phenomena has not been ascertained. The introduction of live material for microscopical observation certainly was a great step forward. Even in some of our modern laboratories this vital aspect is overlooked as suitable material for medical students to ponder over. From the facts available the writer believes that Microscopy included all that the original course in histology offered as well as pathological histology.

In 1853 the English translation by George Busk and Thomas Huxley of Kolliker's Manual of Human Histology was available. This manual was recommended to students the year that histology was first taught, and probably remained the standard text until 1898 when Schafer's and Piersol's books were advised.

In 1885 Dr. Cottell was made full Professor of Medical Chemistry and Microscopy. The previous year, however, he also taught urinalysis and toxicology. The following year he began to teach a new course, Medical Electricity.

In 1886 a prize under the supervision of Dr. Cottell was offered to the student "who shall prepare the best collection of mounted specimens in normal and pathological histology.'' This announcement again emphasized the fact that Microscopy included normal histology.

Microscopy at this time was all inclusive. In the fall 1888 a notice appeared which read in part: ''and special attention is paid to the culture and demonstration of the microbes of the zymotic diseases.'' The condition arose whereby it was necessary to offer a separate course in the subject matter presented under the old heading of Microscopy. This year marked the beginning of the study of bacteriology not as a separate class but along with pathological histology. Prof. E. R. Palmer took over the teaching of pathological histology thus paving the way for more detailed attention to normal histology as a distinct course.

One of the features concerning the teaching in the Medical Department of the University of Louisville were optional courses, usually given in the fall before regular classes began or in the spring along with the usual work. One of these optional courses had the title of Microscopical Technology under the demonstratorship of Dr. Simon Flexner given in the spring of 1890. This course could be taken separately or along with Bacteriology. It was primarily one of technique designed to teach students the art of preparing slides, both of normal and pathological material as well as bacteriological.

Histology remained a part of Microscopy until 1894 when it became a separate and distinct course. The technique of preparing slides, however, was also given as part of the regular work. Dr. Cottell remained Professor of Histology as well as Physiology and Clinical Diseases of the Nervous System, until 1906. From 1894 to 1896 he was assisted by John L. Howard, M. D. From 1897 to 1906 John K. Freeman was his Demonstrator.

There were no required formal examinations in histology up to and including the first decade of the twentieth century. Before 1900 the class in normal histology was optional, although the administration urged students to take the course as a preliminary study in preparation for pathology and physiology. During the period from 1900 to 1910 the course in histology was required but no examinations were enforced. Beginning with the session of 1910-11 not only were students required to take Histology but were held for examinations, a policy which has prevailed up to the present.

Three generations of Palmers were teachers in the Medical Department of the University. Edward Rush Palmer, the grandson of Benjamin Rush Palmer and the son of Edward Rush Palmer, Sr., became Professor of Physiology and Histology in 1907. Although he held the professorship of Histology he never taught the subject as his teaching was primarily in the physiology course. He did, however, as a student and soon after graduation assist in Pathological Histology. Charles O. Zahner during the year 1906-07 was Demonstrator in Normal Histology and Microscopical Technique. John T. Ewing assisted in Physiology and Histology.

Embryology appears for the first time in the curriculum for the session 1907 and 1908, as part of the course in Obstetrics and Embryology, under Prof. Henry E. Tuley, M. D. Dr. Zahner taught Histology until 1910. The description of these courses furnishes us with a fund of information, such as ''much time is allotted to the teaching of the proper manipulation of the microscope early in the course''; again, ''each student is supplied with a microscope, a table, and reagents necessary for the pursuit of his study. He is taught to stain, mount and examine the normal tissues of the body. The specimens so prepared become the property of the student, to form the basis of a collection for future reference and study.'' Thirty hours each are devoted to lectures in embryology and histology and the laboratory demanded sixty hours each of the student's time.

There was apparently some question in the minds of the administrative authorities as to the proper departmental placement of Histology and Embryology. During the session of 1908-09 these two subjects were more or less placed in a separate department. Dr. Emil T. Grasser was Adjunct Professor of both with Dr. Zahner as his assistant. Joseph H. Hathaway, A. M., M. D., in 1909-10 became full-time Professor of Anatomy, Histology, and Embryology which places normal microscopical courses in the Department of Anatomy. A glance at the description of the course in histology reveals a very vital point in teaching such a subject, namely: ''the students are led to build up the various organs from their elementary tissues and in this way histology is placed on a rational basis.'' Stress is also laid upon the ''recognition and differentiation of tissues as a preliminary to future work in pathology,'' a handmaiden so to speak, of pathology.

We see in these last two quoted statements a new conception and a new method of teaching. The man who was responsible for this forward looking program was Dr. Joseph H. Hathaway who was a student under Mall at

Johns Hopkins University. Dr. Franklin P. Mall, above all others in teaching preclinical morphological sciences, initiated a movement in American medical education which gave life and vitality to the subjects taught. The beautiful corrosion specimens still intact in the anatomical museum, made by Dr. Hathaway, Kornhauser, and Hall, the latter two technique which he in turn, had received from his European training. The University has been fortunate to have such men as Hathaway. Kornhauser, and Hall, the latter two trained in European laboratories. Mall's association and training under Wilhelm His and Karl Ludwig were indirectly bearing fruit in his pupil, Dr. Hathaway. Embryology was placed on a scientific basis and the teaching of histology was more dignified.

A curious situation developed in the sessions 1910-11 and 1911-12. Histology was placed back in the Physiology Department; Embryology remained in Anatomy. Walter H. MacCracken, M. S., M. D., was Professor of Physiology and Histology 1910-12. Dr. Hathaway taught Embryology. However, the Microscopic Anatomy of the Nervous System was described as follows and was taught in the Department of Anatomy: "The histology of the brain and spinal cord, from slides stained by the Weigert-Pal and Golgi techniques and other types of stains are used in order to trace the origin and course of the main fiber tracts and regions of nerves." The course in embryology has the following description for the session 1911-12:

"EMBRYOLOGY"

"The course in Embryology is designed as a foundation study for the better understanding of Anatomy, Pathology, and Obstetrics. It is given to first year students after they have completed the course in Normal Histology. The important parts in spermatogenesis, oogenesis, fertilization, segmentation, formation of germ layers and development of organs are carefully studied."

First

"LECTURES IN EMBRYOLOGY"

"Systematic lectures are given, supplemented by the use of charts, models and demonstration of embryological slides with the projection lantern."

Three hours per week for ten weeks.

Dr. Hathaway.

Second

"LABORATORY WORK IN EMBRYOLOGY"

Gross and microscopical study of amphibian ova and embryos and the study of special and serial sections of chick, pig and human embryos. This course follows closely the points brought out in the systematic lectures of the course."

Five hours per week for ten weeks.

Dr. Hathaway and Assistants.

A separate department was again created for Normal Histology in 1912-13 with Prof. Charles O. Zahner as its head; Dr. Hathaway kept Embryology in the Anatomy Department. The following session, however, Histology and Embryology found a permanent home in the combined Department of Anatomy, Histology and Embryology, where they have remained to the present day. The functional point of view has always been stressed in teaching preclinical subjects in most medical schools. Our anatomists today are as much interested in physiology as they are in structure. In fact, a national meeting of anatomists today might just as well be called a national meeting of physiologists as far as subject matter is presented. It makes very little difference in which department a certain subject is taught so long as the material is presented properly. Our grouping of subjects in departments is primarily one of convenience of equipment, both physical and personnel.

From the fall of 1913 to the spring of 1918 Dr. George B. Jenkins was Professor of Anatomy, Histology, and Embryology. He was assisted by the following men: 1913-14 Mr. Ivan E. Wallin; 1914-1918, W. E. McCormack was instructor in Histology and Embryology.

For the next four years Dr. Charles Brookover was Professor of Embryology and Histology and head of the Department of Anatomy. He instituted a system of advanced work in technique and microscopical anatomy for those who look forward to laboratory work. The special training included the preparation and staining of tissues by different methods and also a more intensive study of the special sense organs and other topics which might be selected. Prof. Brookover contributed several articles on Neuro-anatomy to The Journal of Comparative Neurology.

Prof. Henry G. Barbour, Head of the Physiology and Pharmacology Department from 1923-1931, was instrumental in establishing in the Medical School research assistantships. These research assistants in the Department of Anatomy have aided the professors in certain lines of investigation and teaching.

After Dr. Brookover's death in 1922, Dr. Sidney Isaac Kornhauser became Professor of Embryology and Histology and Head of the Department of Anatomy, the position he holds at the present time. Until 1932 Dr. Kornhauser was assisted in Embryology and Histology by student assistants on a half-time basis. Dr. Edmund K. Hall became an instructor in Anatomy, Histology and Embryology in 1932. Two years later the writer became an assistant in the Department and the following year an instructor in Anatomy, Embryology, and Histology.

The presentation of Embryology and Histology at the present time makes use of modern technical equipment as shown in the catalogue for 1936-37.

"EMBRYOLOGY"

"This course gives a historical background for understanding the structure of the human body. It likewise provides a basis for teratology and pathological anatomy. It assumes that the fundamentals of comparative vertebrate anatomy have been mastered. The germ cells, implantation, embryonic membranes, and the development of the organ systems, form the material for study. All textbook work is also studied in the laboratory. Pig and human embryos in serial sections form the largest part of this work. Loan collections of serial sections are provided. Selected sections are carefully drawn and labeled. Moving pictures, living chick embryos, dissections, Spalteholz preparations, and reconstructions supplement the loan material.

"Thirty-six didactic hours, 72 laboratory hours. First year, first twelve weeks of the first semester. Drs. Kornhauser, Hall, and Roofe."

"NORMAL HISTOLOGY AND ORGANOLOGY"

"The normal microscopic anatomy of the human body is presented as a basis for the study of physiology and pathology. The cell, the elementary tissues, and the organs are studied. All material discussed in the classroom is studied microscopically in the laboratory. The laboratory work, therefore, forms the backbone of the course. Students are lent collections of one hundred and sixty-six slides illustrating the tissues of the human body. These slides are supplemented by fresh material, by frozen sections, and by macerated tissues. The weekly printed outlines require careful study of these materials. Special slides are demonstrated each period. One well executed plate per week is drawn. Practical examinations on the laboratory work are given every five or six weeks. On Monday from 9-10 there is discussion of the laboratory work of the week, with mimeographed outlines used as a basis. On Tuesday from 9 to 10 there is the Journal Club. Reviews are given by the students of current literature, and there are historical papers on histology. On Thursday from 9 to 10 there is a written quiz of twenty minutes, followed by a discussion of the work of the week. The class is divided into three sections."

"Sixty didactic hours, 120 laboratory hours. First year, last twenty weeks. Drs. Kornhauser, Hall and Roofe."

A new histological laboratory was established by Dr. Kornhauser the second year of his professorship. Previously histology was taught in a crowded poorly lighted room used in conjunction with pathology. New facilities for teaching were also added such as new tables, individual lamps for microscopes, histological and embryological models and charts. New sets of slides both embryological and histological were also made which aided greatly in the laboratory instruction. Our present laboratory in the fourth floor of the new medical annex is a model plant in the ease, convenience, and modern facilities for teaching. Dr. Kornhauser also revised the course of study in which mimeographed sheets outlining each week's work formed the basis as a guide of the student's endeavors under the supervision of instructors. Since his administration a Departmental Library has grown from a few volumes of The Anatomical Record and The American Journal of Anatomy as well as The Journal of Comparative Neurology to one containing many of the leading journals and handbooks of anatomy. The Department of Anatomy now subscribes to fifteen leading anatomical and morphological journals besides others which come to the Department through the regular library budget.

The teaching of Histology and Embryology in the Medical School is keeping abreast of the times in new and better techniques in the science itself as well as the personnel.

A BRIEF REVIEW OF THE TEACHING OF CHEMISTRY IN THE MEDICAL SCHOOL OF THE UNIVERSITY OF LOUISVILLE

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A century of progress in the teaching of Chemistry in the Medical School of the University of Louisville is a picture of the accomplishments of yesterday. Today, we pause for a moment to survey the progress which has been achieved, and, fired with new enthusiasm, press on to greater achievements tomorrow.

The first course of lectures in chemistry in Louisville was given in the year 1837, at the opening of the Louisville Medical Institute, in upper rooms of the City Workhouse, which stood upon the site of the first medical building. Dr. Lunsford P. Yandell, Sr., was the first to hold the chair of chemistry, having resigned the professorship of chemistry in Transylvania University at Lexington in 1837, when he became convinced that the proposed medical school at Louisville promised a wider field of usefulness and greater possibilities of development than at Lexington. For twelve years, until he resigned to accept the chair of physiology and pathological anatomy, he nursed the development of his department until it became outstanding. When, in 1838, the University Trustees commissioned a faculty member to visit Europe for the purpose of obtaining anatomical models and books for the library, new chemical apparatus was procured to be placed in the laboratory of the first medical building, whose cornerstone was laid February 22, 1838. Expressing his idea of the importance of chemistry, Dr. Yandell wrote, "The laboratory must not be dwarfed, but should be on a scale corresponding to the advanced state of chemical science, which daily becomes more and more intimately connected with medicine." That he realized his ambitions for the equipment of his department is revealed in his description of the laboratory in 1852. "Upon no department of the institution have means been more liberally expended than its chemical apparatus, and in this department, it is believed, it will bear a favorable comparison with any medical college in our country. The apparatus is not only of the most modern and improved style of construction, but on a scale adapted to a large class, enabling the experimenter to exhibit every appearance to the most remote of his auditors, and to render his course eminently brilliant as well as instructive. The chemical lecture room, with the laboratory and other accessory apartments, occupies more than half of the first story of the building, the former extending upwards to the third story. This great elevation gives to this room an amphitheatrical form which is of the greatest utility in demonstrative lectures. The series of rooms connected with the chemical theatre used for chemical research, the preparation of experiments, the preservation of apparatus, etc., form with it, as extensive and convenient a suite of apartments as could be desired."

The method of instruction during this period was that of the lecture demonstration. The subject matter upon which the students were examined was classified as 1. Imponderable substances (electricity, heat and light), 2. Ponderable substances (inorganic matter and organic matter).

It is well to point out here that in this period organic chemistry was in its swaddling clothes, since it was only ten years previously that Wohler had made his epochal synthesis of urea from inorganic substances and thereby disproved the "vital force" idea of the origin of organic matter.

That Dr. Yandell used a text book to supplement his lectures and demonstrations, the author has not ascertained. A volume of the third edition (1836) of Robert Hare's Compendium of the Course of Chemical Instruction in the Medical Department of the University of Pennsylvania has been found among the books of the library of the Louisville Medical Institute and was available to his class. The last paragraph of the conclusion to that very interesting volume may be consoling to pre-medical and medical students of today.

"From the multiplicity of analyses, of which the results are so nearly alike as to baffle the efforts of the adept to remember them, it were utterly impracticable to impart a knowledge of the minutiae of organic chemistry, during a course of instruction limited to four months. I am, however, consoled in recollecting, that it is that branch of chemical science, in which it is most easy for gentlemen of the medical profession to become their own instructors as the subjects are within their own reach and the implements and agents for investigation are very simple, and may be obtained with, comparatively, little exertion and expense."

Benjamin Silliman, Jr., M. A., M. D., succeeded Dr. Yandell in 1849, the title of his chair being Professor of Medical Chemistry and Toxicology. Dr. Silliman came from Yale with a fine reputation both as author and teacher. A biographer says of him, "He was a stout man, with blue eyes, fair skin and handsome face. He spent almost his entire time in the laboratory, and made his every lecture a carefully prepared discourse." He was the author of "Elements of Chemistry" which he used in his class work. Dr. Yandell spoke of this book as "embracing a clear and succinct view of the present state of that science." A description of the course in chemistry was given in 1852 as follows: "In this course a systematic view is given of general chemistry, with a constant regard to its medical applications. So much of general physics, or natural philosophy, is embraced, as is needed in explanation of the chemical and vital phenomena, and no more. Every subject is fully illustrated by experiments and drawings, and a constant use is made of the blackboard in explaining and enforcing the principles of chemical philosophy. No effort is spared to teach the students the art of thinking chemically. The apparatus of the department is, it is believed, second to none in fullness and capacity of illustration. The physiological effects of the chief poisons are experimentally illustrated upon living animals—the results of dissection being shown in numerous cases. The laws and phenomena of organic chemistry receive an important share of attention, and especially with reference to the functions of life. Practical instruction in the methods of analysis, and in the principles of general chemistry, is also provided in the laboratory under the direction of the chemical demonstrator. All the important and most of the rarer substances and preparations are shown during the course.''

The February, 1854 issue of the Western Journal of Medicine and Surgery contains a paper on physiological chemistry in which Dr. Silliman reviewed a translation, from the German, of Professor C. G. Lehmann's Physiological Chemistry. It is interesting to note that twenty years before the first definitive laboratory of physiological chemistry in America for the instruction of students was established at Yale (Chittenden, The Development of Physiological Chemistry in the United States), the professor of Chemistry in the University of Louisville was pointing out to the medical profession in the interior of the United States, the superstructure of the new science of animal life which was rapidly rearing itself to become a valuable tool in the hands of the trained physician. He pointed out in the review some of the causes of the partial failure of the application of chemistry in vital phenomena. He commended the bold and courageous facing of the truth and wished than the same could animate all teachers and investigators. Although principles of chemistry had been useful to a physical diagnosis, yet the means were wanting to prosecute them with scientific accuracy. Animal chemistry was still wholly unable to afford a precise, and at the same time a practically useful method of investigating the blood. It could not be otherwise while there was doubt regarding the chemical nature of its ordinary constituents. Fibrin, one of its most important constituents, had not been exhibited in its pure state. Dr. Silliman wrote, ''The urine in its morbid condition presents many varieties; and yet our knowledge of this secretion, frequently as it has been analyzed, amounts to little more than an acquaintance with the quantitative relations of its principle constituents. . . . Many experiments have been made and theories broached on nutrition and digestion, and yet to almost the present day the existence of lactic acid in the gastric juice has been contested. Although hypotheses are not wanting regarding the mode of action of pepsin, we know nothing of its chemical nature, and we are wholly ignorant of the proximate metamorphosis of albuminous bodies in the stomach during the process of digestion. . . . Although at present little more than the direction is indicated we may hope in due time, and after innumerable efforts, to see our endeavors crowned with success.''

J. Lawrence Smith, M. D., formerly of Charleston, South Carolina and a former professor of Chemistry in the University of Virginia, was elected to succeed Dr. Silliman. The June, 1854 issue of the Western Journal of Medicine and Surgery carried the following announcement: ''Professor Smith is extensively known as a successful cultivator of chemical science. His researches, both in chemistry and mineralogy, have been numerous and important. Although now devoted to chemistry as a pursuit, he was regularly educated for the profession of medicine, his acquaintance with which will enable him to point out to his students the many intimate relations of chemistry to medical science. It is his intention to settle permanently in this city, where, before he was elected to this chair in the University, he had erected a laboratory for the purpose of pursuing his scientific investigations. Professor Smith, we have no doubt, will prove an acceptable teacher, while as a practical working chemist and gentleman of varied profound science, he is an acquisition.''

Dr. D. W. Yandell, speaking of Dr. Smith in 1877 said, ''He was a scientist from the sheer love of science, full of learning, and a prestidigitator with apparatus. He was distinguished for his originality of thought and work. Few men have done more for science, pure and simple, in America, than he, and perhaps none have received for it more general recognition both at home and abroad.''

The faculty minute book of 1857 reveals that Dr. Smith's interests were not in chemistry alone for he was made one of the editors of the newly organized Louisville Journal of Medicine and Surgery. In the same year he proposed that a clinic be held at the medical building once a week. Chemical physiology was added to the chair of chemistry in 1859 and in 1864 Dr. Thomas E. Jenkins was employed to give the lectures in chemistry while Dr. Smith lectured in physiology.

Dr. Jenkins resigned after serving one year and Dr. Smith assumed the duties of the chair of chemistry. He was reappointed in the reorganization of the faculty in July, 1866, but he resigned to become emeritus professor of chemistry.

C. W. Wright, M. D., was appointed professor of chemistry September 3, 1866, and in 1868 his chair carried the title, Professor of Medical and Physiological Chemistry. This was the first time that the title physiological chemistry had appeared in any of the catalogs of the University and was continued only as long as Dr. Wright held the chair. The faculty roll for the year 1867 contained the name of Dr. L. D. Kastenbine as assistant to the professor of chemistry, and while demonstrators were used by the former heads of the department to assist with the experiments, this is the first record of the appointment of an assistant to the chair of chemistry. Dr. Kastenbine was a graduate with the first class of the Louisville High School in 1858 and studied chemistry under J. Lawrence Smith when a student in the medical school. For some years he attended to all the medicolegal work of Louisville. Dr. Wright resigned March 6, 1869.

James W. Holland, M. D. was called to the chair of Medical Chemistry and Toxicology in 1869 and during his thirteen years' regime, several innovations in the teaching of medical chemistry were instituted. A presession course of lectures in urinary deposits was given in 1873. Materia Medica was added to his department in 1874 and in 1875 he offered a gold medal to the student who passed the best examination in materia medica and medical chemistry.

The catalog for the year 1878 carried the announcement of a course in practical medical chemistry—"Students will receive without extra charge, a course of laboratory instructions and manipulations by the student himself, in chemical analysis, under the supervision of Dr. Holland." Special optional manipulative courses were announced in the catalog for 1879—"During the winter session of 1878-9 instruction was given in urinalysis and microscopy by practical exercises in laboratories especially fitted with Beck's microscopes and added sets of chemical reagents. The success of this initial step has prompted the faculty to establish five demonstratorships. Fee for single department $5."

Attfield's Chemistry: General, Medical and Pharmaceutical was adopted as a text book. This book made the unusual record of being used continuously in its several editions for thirty-two years. It was an English publication and contained extensive material on quantitative analysis. Tyson's book on urinalysis made its appearance in 1875 and was adopted for use in the laboratory in 1879.

Dr. Holland's title became Professor of Materia Medica, Therapeutics, Medical Chemistry and Diseases of the Nervous System. Dr. G. H. Anderson was assistant in chemistry from 1874 to 1877 and Dr. H. A. Cottell, a graduate of the local medical school with the class of 1872 was made demonstrator in medical chemistry in 1879. Dr. Holland was transferred to the chair of Pathology, Clinical Medicine and Diseases of the Nervous System at the beginning of the term 1882, but resigned in 1886 to accept the chair of Medical Chemistry and Toxicology in the Jefferson Medical College of Philadelphia.

H. A. Cottell, M. D., was appointed Professor of Medical Chemistry and Microscopy February 23, 1884, having served as lecturer in chemistry when Dr. Holland resigned. Dr. Cottell had extensive alterations of the chemistry laboratories completed by which the seating capacity was enlarged so that 350 students could work at one time. A postgraduate course in urinalysis and toxicology was offered in 1884. While the lecture-demonstration method was still used, more and more practical and manipulative work was required of the students. Draper's Practical Laboratory Manual was added to the required books. The following is a description of the course as announced in the 1892 catalog: "The laboratory is complete in all its appointments and is one of the largest in America, having a seating capacity of about 350. While a requisite number of didactic lectures is given to make plain the principles of chemical philosophy and nomenclature, the greater part of the course is demonstrative. It deals with poisons and their antidotes, and the relations of chemistry to physiology, pathology and hygiene. The analysis of urine for diagnostic purposes receives especial attention. Each student being seated at a table with suitable apparatus, reagents and materials before him, is drilled in the essentials of practical chemistry under the eye of the professor who is aided by trained assistants."

The assistants to Dr. Cottell were Dr. A. V. Griswold (1886) Dr. H. M. Goodman, demonstrator in Chemistry (1888-1896), Dr. J. L. Howard, assistant in chemistry and microscopy (1891-1896) and Dr. J. K. Freeman, assistant in microscopy (1896).

A change in the manner of "quizzes" was announced in the catalog for 1893. "Daily examinations in the branches taught have long been a prominent feature of the University curriculum. Formerly this work was chiefly conducted by private quizmasters to whom special fees were paid by the students. Under this system a limited number of the class received the benefits of the quiz. The faculty and assistants will conduct this work, and the entire class will daily enjoy the advantages of this important phase of instruction without extra charge. The Faculty Roll will show that special provision is made for quizzes upon all the general branches of medicine by the appointment of a quiz master to represent each chair. The hour from

8 to 9 P. M. daily, except Saturday, has been set apart for this work.''

H. M. Goodman, M. D., was made professor of medical chemistry in 1896 when Dr. Cottell was transferred to the professorship of physiology, histology and clinical diseases of the nervous system.

During the first two years of Dr. Goodman's regime, chemical philosophy, inorganic chemistry and toxicology were studied by the first year students and organic chemistry, toxicology and urology by the second year students. From 1898 to 1901 courses in chemistry were given in each of the four years:

First Year, Chemical philosophy, inorganic and analytical chemistry and medical physics.

Second Year, Organic chemistry and toxicology.

Third Year, Clinical chemistry (Chemistry of secretions, urine and other excreta.)

Fourth Year, Synthetic compounds (coal tar derivatives, benzoic acid, series, toxins, ptomaines) hygienic chemistry.

The fourth year courses were discontinued in 1902 and clinical chemistry was made a part of the second year subjects in 1903. This program was continued until 1907 when an alteration in the course in chemistry was made by giving practical work in the analysis of urine, blood, milk, water and digestive juices in the second year of the course.

It is to be remembered that during the early years, the medical schools of the country, as a rule, were offering only so-called medical chemistry by lecture and demonstration. Louisville was fortunate in having men with the vision of Dr. Holland, Dr. Cottell and Dr. Goodman who recognized the value of individual manipulation and laboratory work in the teaching of chemistry. The broader study of physiological chemistry by experimental methods was gaining recognition rapidly. It had outgrown its swaddling clothes and had gained freedom from its foster-parent physiology by the beginning of the present century. Folin, Van Slyke and others had, by the development of special technique, showed its important applications to clinical medicine. The University of Louisville was ready to use the fund of physiological knowledge which was accumulating in this country and abroad, and could contribute something of direct use and practical value to the every day practitioner of medicine. A year course in physiological chemistry was made part of the curriculum in 1910..

The assistants to Dr. Goodman were Dr. E. R. Palmer (1896-1899), Dr. J. K. Freeman (1896-1900), Dr. Herbert Bronner (1902-1905), Dr. A. F. Knoefel (1903), Dr. Heman Humphrey (1905), J. B. Blue (1906), Dr. D. C. Doonan (1907), Dr. G. C. Smith, (1907-1908), Dr. A. H. Kelly (1908) and Dr. L. R. Edelson (1908).

Charles J. Robinson, Ph. D. became professor of chemistry in the fall of 1909. Courses in general inorganic, organic and analytical chemistry were given to the. freshmen, and the sophomores devoted a year to the study of physiological chemistry. The Association of American Medical Colleges adopted the requirement of one year of college pre-medical training for entrance to class A schools beginning January 1914. The University of Louisville conformed to the requirement and therefore it was no longer necessary to teach inorganic chemistry in the medical school. A course in physical chemistry was given in 1915 but was not repeated in the following years. The teaching of toxicology by the chemistry department had been discontinued in 1907 but was made a part of the chemistry curriculum in 1915.

The assistants to Dr. Robinson were H. H. McGregor (1910-1911), Dr. J. Chandler (1912-1914), J. H. Mueller (1912-1913), E. Cox (1914-1915), E. T. Johnston (1915), J. G. Didwiddle (1916), J. C. Munch (1916) and Sarah Vance (1917).

Alfred W. Homberger M. S., Ph. D., was appointed Professor of Chemistry and Head of the Department of Chemistry in the year 1918, which position he holds at the present time. He had received his training at the Universities of Wisconsin and Illinois and under Otto Wallach at Gottingen and Treadwell at Zurich. He assumed the duties of his chair at a time when radical changes in the educational system throughout the country had been brought about by the growing interest in the experimental method. The teacher of chemistry as well as anatomy, physiology etc., could no longer be a general practitioner and devote the time and energy necessary to keep his courses abreast of the rapidly growing sciences. He must be trained in the modern methods of research and devote all his energies to the development of the science in which he was interested.

In January 1918 the two year college requirement for entrance to class A medical schools was adopted, and as a result it was not necessary to offer a course in organic chemistry in the medical school. A course in clinical chemistry was started in 1919. The latest and most accurate micro-methods for the analysis of blood, urine and other biological specimens were taken from the current biological journals, mimeographed and given to the third year students for use in the laboratory. This continued until 1926 when the second year students received the instruction in clinical chemistry. The number of hours in chemistry was reduced in 1929, so that the quantitative clinical applications of physiological chemistry were made a part of the freshman course thus following the modern trend of emphasizing the quantitative phase of the subject.

Recognizing the importance of training in nutrition for the prevention and treatment of disease, a course in nutrition for third year students was given by Dr. Homberger in 1920. This was among the first courses, if not the first, which was devoted entirely to the study of nutritional problems, required of medical students in this country. The increasing need for more space for laboratory teaching, so that recognized standards could be maintained, resulted in converting the amphitheatre or as better known, "the bull pen" in the two story annex to the medical building into a large chemical laboratory. The teaching of toxicology by the chemistry department was discontinued in 1925.

The assistants to Dr. Homberger from 1918 to 1937 were F. C. M. Smithson (1918-1922), Dr. H. I. Johnson (1918-1919), S. L. Schulte (1918), Bess Mathis (1920-1923), Andrew Snyder (1920-1923), Margaret Jefferies (1921), L. Bittner (1921), W. M. Sandstrom (1922-1923), Mary Louise Towles (1922-1923), Dr. H. O. Calvery (1924), E. D. Botts. (1924), Dr. Louis Baer (1924-1926, 1932-1933), Dr. T. N. Thrun (1924). Dr. R. J. Kaufman (1925-1926), Dr. R. W. Jackson (1925-1926), Louis Howland (1925-1926), F. M. Shipman (1926-1932), J. L. Tanner (1927-1929), David Bottorff (1930-1931), Dr. Harry E. Carswell (1927-), and Willa Holzheimer (1929-).

The chemistry laboratory was torn down in the spring of 1934 to make way for the modern annex which was completed in 1935. Classes in physiological chemistry and volumetric analysis for the year 1934-1935 were held in the chemical laboratories on Belknap Campus. With the improved facilities which the new building provides, the department of physiological chemistry has added new equipment and instituted improved methods for presenting the subject matter in an endeavor to give the student a broad conception of the importance of the chemical functions of the animal body.

The way of chemistry in the medical school of the University of Louisville was indicated by Yandell, Silliman, Smith and Wright who built the necessary foundation. The untiring efforts of Holland, Cottell, Goodman, Robinson and Homberger, to make the principles of chemistry applicable to the practitioner, have borne fruit. It remains for the present staff and those who follow to maintain even higher standards and to increase chemical knowledge rich in the possibilities of aid to medicine.

HISTORY OF THE DEPARTMENT OF PHYSIOLOGY AND PHARMACOLOGY

P. K. Knoefel, B. A., M. A., M. D.

Assistant Professor of Pharmacology.

It is particularly significant that physiology was first taught in Louisville by Charles Caldwell. This marks its direct descent through Philadelphia from Edinburgh, where physiology first entered the medical curriculum, as the "Institutiones Medicae," in 1726. Moreover, Caldwell was certainly "in at the birth" of physiology in this country. As a pupil of Benjamin Rush, the first American physiologist, he must have been familiar with the physiological researches of Rush's pupils. In fact, Caldwell edited several volumes of graduation theses, in which form these researches were published. His familiarity with the physiology of his day is established by his translation into English of Blumenbach's Physiology, the first popular text after Haller. Although Caldwell's lectures were described by L. P. Yandell as "the physiology of the ancients," they could scarcely have been modern, when Carl Ludwig was 21, Helmholtz 16, and Claude Bernard 24.

In 1849 Lunford Pitts Yandell became Professor of Physiology and Pathological Anatomy. Coming to Louisville with Caldwell, he had served as Professor of Chemistry, as he had at Transylvania. In abandoning the title "Institutes of Medicine" used by Caldwell, he may have wished to avoid the appearance of succeeding him, as the two were not on the best of terms. Yandell was the first of the family of the faculty of the school. He was eminent as paleontologist. Of his teaching in physiology we know little. He says that in his lectures, "experiments are occasionally introduced."

On the resignation of Yandell there followed a period of reshuffling of professorships which, combined with the difficulty of maintaining a faculty in the war years, led eventually to trouble. In 1859 it was resolved to give Chemical Physiology with Chemistry, under J. Lawrence Smith, and General Physiology with Anatomy, under Benson. The chair of Physiology and Pathological Anatomy was re-established in 1863, and filled by George W. Bayless, a Louisville practitioner. When, in that year, the

Dean and Professor of Anatomy, Benson, became a political prisoner, Bayless took over his duties, the lectures in physiology being given by J. L. Smith.

In 1865, Benson still absent, Bayless became Dean and Professor of Anatomy. An attempt was made to establish Smith as Professor of Physiology and Chemistry, and to secure an assistant lecturer in chemistry, but after this offer had been refused by several individuals, Smith became Professor of Physiology alone. However, the resignation two months later of the new Professor of Chemistry returned this department to Smith, and S. W. Bemiss, once in Materia Medica, assumed the chair of Physiology. Early in 1866, Bemiss spoke, in resigning, of an "impending adversity," and later that year it appeared. The recommendations to the Trustees by the Faculty for its completion were refused. The Board, claiming a need for complete reorganization of the school, demanded resignation of the Faculty in toto. The eventual compromise left the honors rather with the Faculty. The proposal of the Board to make S. G. Armor then an eminent member of the Cincinnati Faculty, Professor of Materia Medica, came to naught, as Armor apparently never came to Louisville. Middleton Goldsmith, who was unhappily unable to repeat in Louisville his successes elsewhere, was made Professor of Surgery but stayed only a few months.

In 1866 James M. Hollaway, who had been Professor of Anatomy the preceding year, took the chair of Physiology, to be succeeded the next year by Henry M. Bullitt. Both these men were local practitioners.

In 1868 this troubled period ended with the appointment as Professor of Physiology and Histology of E. R. Palmer, the second member of another family in the school. Son of Benjamin Rush Palmer, Professor of Anatomy, Edward Palmer was perhaps the first graduate of the school to take a chair in its faculty. Palmer was born in Woodstock, Vermont, where his grandfather practiced medicine and taught chemistry at the local medical school. Benjamin Palmer also taught and practiced in Woodstock, with some eminence, as he had as visitor, to his son's recollection, Oliver Wendell Holmes. John C. Dalton, later Professor of Physiology at Buffalo and author of a text-book most popular at Louisville from 1863, also taught at Woodstock at this time.

The young Palmer does not seem to have been inspired to study by these early associations, and it was not until some years after the family had removed to Louisville that he seriously turned to the study of medicine, graduating from the school in 1864. He then entered military service until the death of his father recalled him to Louisville in 1865. In 1867 he became assistant in anatomy, and was immediately successful with the students, as they petitioned the Faculty to make him demonstrator of anatomy. The reply was that the post was already filled, but shortly thereafter another Faculty-Trustee divergence made an opening. The Faculty had recommended that J. H. Bodine hold the chairs of Anatomy and Physiology, but this failed of approval by the Board, and John Thruston, local practitioner and relative of Lewis Rogers, Professor of Materia Medica, was made Professor of Physiology, which post he held for two weeks before resigning. Now, in 1868, Palmer became Professor of Physiology for a long period, which saw the beginning of major changes in the teaching of the subject.

Palmer's career was a varied one; at first appointment his chair included Histology, by 1874 this was dropped for Physical Diagnosis, in 1885 for this was substituted Clinical Diseases of the Chest. In 1888 Palmer asked to be relieved of the latter and to take the subject of Pathological Histology, and in 1894 he relinquished this for Genito-Urinary Diseases. He occupied this bipartite chair until his death, in a bicycle accident, in 1895. Palmer was described by his successor, Cottell, as a brilliant lecturer, with ready wit and full of homely similes. His interest lay chiefly with the practice of urology; his published writings are almost entirely in that field.

The development in the school of physiology from a purely didactic form to its present one coincides with the rise of Henry A. Cottell. His career, through more positions than anyone has held before or since, begins in 1871, when he served as Librarian while still a student. Graduated with honors in 1872, he rapidly acquired the offices of Curator, Prosector, and Assistant Demonstrator in Anatomy. In 1873 there was started an optional Spring and Summer Course of Lectures, and from 1875 to 1879 we find Cottell giving variously, Anatomy, Physiology, Chemistry, and Therapeutics.

In 1878, seven years after Bowditch had established at Harvard the first teaching laboratory in physiology in the country, E. R. Palmer announced here a Laboratory Course in Practical Physiology, in which were shown "Physiological Processes, Reactions of Proximate Principles and Microscopic Sections of Tissue Elements." This course appears in the Bulletin for that year only, and as late as

1893, the list of laboratory courses did not include physiology. Another attempt was more successful. J. H. Holland, Professor of Materia Medica and Medical Chemistry, had given some tentative laboratory exercises in chemistry and microscopy, and in reporting their success (in 1878), proposed to install demonstrators in these subjects. The students were now offered these Special Optional Manipulative Courses in Medical Chemistry, and Histology and Microscopy, the latter including Vivisections. Cottell gave the first, and by 1881, the second also. These optional courses were apparently popular with the students, and were included in the regular curriculum, with no extra charge, in 1884. Palmer's course having retreated from its excursion into the laboratory, these Manipulative Courses are of particular importance to us, as they gave the first exercises in experimental physiology.

The introduction of this material was largely due to Cottell; in his course in microscopy he states that "living phenomena are exhibited on frogs and fishes." His teaching is exemplified by his course in Medical Chemistry, of which he became Lecturer in 1882, and Professor in 1884. He discussed "the relations of chemistry to physiology and pathology, taught principally by laboratory manipulations, with experimental illustration wherever possible." In 1894 there appeared a laboratory course which continued in the catalog until the present. This was given by a demonstrator, H. M. Goodman, later Professor of Medical Chemistry. It was augmented in 1898 by additional equipment. From Palmer's death in 1895, Cottell was Professor of Physiology until 1906, then taught Materia Medica, being followed in physiology by E. R. Palmer, Jr. Cottell also had been Professor of Neurology since 1892, and he held this position, Emeritus, until his death in 1928.

With the union of the Louisville schools in 1907-8, the teaching in physiology became much as it is today, using all the modern methods. At this time, Palmer was joined by A. O. Pfingst, Ellis Duncan, and H. A. Davidson, all serving as Professors of Physiology. From 1909 until 1913, this position was occupied by Walter H. MacCracken. He was succeeded by Charles O. Zahner, who had risen after graduation from the School to be the first Professor of Physiology to devote his time entirely to the teaching of it. On his death in 1918, George Hays, former assistant in physiology, was recalled from McGill to take the Professorship. In 1923 there came as head of the department, from Yale by way of McGill, Henry G. Barbour, known wherever there are physiologists for his researches. With him as Professor, from 1931-33, was W. F. Hamilton. Since 1933, the head of the combined department has been George E. Wakerlin.

MATERIA MEDICA AND PHARMACOLOGY

Although scarcely akin in subject matter and its handling, Materia Medica was the parent of Pharmacology as a discipline, and the begetting deserves narration. In the first year of the school, L. P. Yandell taught materia medica, but only until Charles W. Short could be persuaded to come to Louisville. Short, a pupil of Casper Wistar, was by choice a botanist but he taught materia medica until 1849, becoming Emeritus at that time. He was described by D. W. Yandell as "an instructive but not an interesting lecturer. He never looked at his audience, but fixing his fine blue eyes on some far and elevated corner of the room, and rising and falling on his toes and heels, delivered his carefully prepared prelections." We suppose that meanwhile his assistant passed around the contents of the "cabinet of materia medica" which the early bulletins mention so fondly. Short was succeeded by Lewis Rogers, who was reputed to have the most lucrative practice in Louisville. In 1857 Rogers resigned but was cajoled into taking the chair of Clinical Medicine. In 1861 the title of Professor of Materia Medica and Medical Jurisprudence was created by S. W. Bemiss, but in 1863, "owing to the peculiar circumstances attending the continued absence of (this Professor)—the Honorable Board of Trustee (was) recommended to declare said chair vacant." Lewis Rogers again became Professor of Materia Medica, became Emeritus in 1866 when L. J. Frazee took the chair, was active again in 1867, Emeritus in 1868, when L. P. Yandell, Jr., became Professor. In 1874 J. W. Holland, long Professor of Chemistry, taught Materia Medica in addition, Yandell taking the title of Professor of Therapeutics and Clinical Medicine. In 1882 J. A. Octerlony, having severed an unfortunate connection with the Kentucky School of Medicine, became Professor of Materia Medica. In 1883, Holland took the title again, was succeeded the next year by Turner Anderson. In 1885 Wm. Bailey began a long occupancy of the chair, and was made Emeritus Professor in 1901 when John G. Cecil succeeded him. In 1906 H. A. Cottell took the chair, to be joined in 1907 by Virgil E. Simpson (1907-1923) and Leon L. Solomon (1907-1908).

The change towards Pharmacology began at this time, with more emphasis being laid on the physiological action of drugs. A "Pharmacology Laboratory'' appeared in 1907, but was actually a demonstration of pharmaceutical technique, and this title disappeared after this year. In 1908 the title of the department of Materia Medica and Therapeutics included Pharmacology for the first time. A laboratory course in experimental pharmacology appeared in 1911, and from its catalog description was essentially similar to the present course. From this year, there was increasing emphasis on the value to the student of experimental knowledge of the action of drugs.

Also Professors in the department during this period were Hugh N. Leavell (1909-1914) and O. E. Dilly (1908-1909). From 1912 until 1923 pharmacology was combined variously with Materia Medica and with Physiology, at times with both. Since 1923 the combined department of Physiology and Pharmacology has continued, the separate existence of a department of Materia Medica having ended at that time. R. Beutner, well-known for his writings on the physical chemistry of living processes, was Professor of Pharmacology from 1931 to 1936.

THE HISTORY OF PATHOLOGY AT THE UNIVERSITY OF LOUISVILLE

HAROLD GORDON, M. B., M. S., M. D.

Assistant Professor of Pathology.

Instruction in Pathology at Louisville was practical in method from the outset. Laboratory and library facilities were adequate and the lectures were supplemented by demonstrations. At first Pathology was taught ''in connection with Physiology out of which it naturally grows.'' Yet today we speak of pathologic physiology as if it were a new discovery. Until the curriculum was lengthened, the course extended throughout the year of study requisite for attainment of the M. D. degree. Later it was taught as an adjunct to Clinical Surgery and Medicine. The subject matter was illustrated by charts, wet and dry specimens. Additional appropriations were voted from time to time towards upkeep of the library and the museum which in 1852 measured 60 by 45 by 20 feet. Lebert's plates, illustrative of morbid anatomy, were purchased in 1865 at a cost of $229.50 and papier mache models for the museum in 1874 at a cost of $500.00. Both purchases were financed by the faculty. Beck's microscopes were provided for the laboratory courses in Pathologic Histology and Clinical Microscopy. Necropsies were punctually attended by the Clinical staff as well as the students. Some of the papers written by Gross and by Austin Flint were based on post-mortems performed at this school. The high level at which instruction in Pathology was maintained here is nowhere better shown than by the character of the texts recommended in the annual catalogues. Gross' ''Pathological Anatomy,'' the first exhaustive treatise of its kind written in English and one ''highly thought of, even by Virchow,'' was used for many years. Later it was supplemented by the texts variously edited by Paget, Billroth, Green, Bryant, Gibbes, Woodhead, and Delafield and Prudden. the twenty-third edition of Delafield and Prudden is in use in the leading American and English schools today. The pathology texts currently advised at this school—Mallory, MacCallum, Karsner, Boyd, and Ewing—all are edited by North American teachers—an interesting commentary on the leading role played by America in contemporary medical education.

Proof of the solicitude of the faculty for the maintenance of a high scholastic standard is afforded by the number of prizes offered to students by some of the early teachers. Pathological investigations of one kind or another were a favorable method of testing the comparative merit of students for special recognition. Dr. T. S. Bell offered a gold medal for the student furnishing ''the best preparation of the Depurative Kidney of Bright's Disease by Lockhart Clark's plan'' and a similar award for the best essay on ''Bright's Diseases of the Renal Organs.'' Dr. H. A. Cotell offered a gold medal for the best collection of mounted specimens in normal or pathological histology.

Systematic quiz periods, without extra charge, were introduced in 1893. Before, such tutoring had been conducted by private quiz masters to whom the students paid additional fees. In 1894 the course in Pathology was illustrated by the use of ''magic lantern projection.''

Since the turn of the present century the trend of teaching in Pathology has been changed gradually to conform to the modern concept of functional thresholds so that now the progressive character of disease (genesis, pathias, altered function) is stressed in longitudinal section rather than as end results (morphology). This change is the result of scientific progress in all fields and improvement in technical methods. Among recent changes bearing upon methods of teaching in Pathology, chief place should be assigned to the practice of making microscopic sections of all material received in the laboratory. This was instituted to some extent in 1909, but has been greatly extended and applied also to autopsy material. A direct and important result of this practice is apparent in two directions—extension of the laboratory course for students and improvement in the diagnostic service available to the clinicians. Before 1915, tissue sections for student presentation were prepared for each year's class. This had the advantage of giving the students permanent possession of sections illustrative of a variety of morbid changes. However, since the material was not inexhaustible or always replaceable, it was impossible to insure a completely representative series for every class. Since 1915 the microscopic sections were merely loaned to each class. The student loan collection was a limited one at first, but has grown rapidly and now consists of more than 26,000 slides, illustrative of all but the rarest of lesions. This improvement was made possible by the introduction, in 1928, of paraffin impregnation in place of celloidin. The slides are loaned to the students during the entire year of instruction. They are added to from time to time and are fully indexed. The introduction of frozen section technic greatly facilitated diagnosis which, by this method, can be rendered with reasonable accuracy within a period of five minutes. Many such sections are now made in the course of each year and demonstrations of the method are given to student groups to illustrate its uses and limitations. In 1928 special staining methods for differentiating pathological processes and deposits were instituted as a routine and sections illustrative of these methods are included in the loan collection.

In 1913 the Department of Pathology was moved to new quarters in the basement of the City Hospital where a spacious post-mortem amphitheatre was provided. At present student attendance at necropsies is obligatory during the sophomore year and not infrequent as a voluntary exercise by the juniors and the seniors. Completion of the new medical building in 1935 made available the splendid quarters now jointly occupied by the Departments of Pathology and Bacteriology and as this is being written, preparations are under way for moving the hospital division of the department to the fourth floor of the new Annex of the City Hospital. Here the accommodation will be more spacious, allowing for more efficient administration.

In 1922, in co-operation with the Department of Internal Medicine, clinical-pathological conferences were instituted. They were elaborated in 1928, when lantern microprojection became available. These conferences constitute an important weekly diagnostic exercise for the junior and senior classes. Photomicrography also is a recent (1930) departmental innovation and allows of the recording of interesting cases and experimental investigation. Still more recently a large departmental library has been instituted. It houses a complete set of Virchow's Archives as well as the important current journals of pathology. The pathology museum is being completely reorganized so as to extend its teaching value. This was made possible by a generous grant from Alpha of Kentucky Chapter of Alpha Omega Alpha, honorary medical society. An illustrative exhibit is on view at the Medical School as part of the Centennial. In scope and general treatment it bids fair to introduce a revolutionary method of museum presentation. Wet specimens are used from time to time to supplement the didactic and laboratory courses. The present course is so planned that elective courses are available for small student groups and student seminars are conducted at frequent intervals, thus allowing the students to take some part in their own undergraduate instruction.

BACTERIOLOGY

George McLean Lawson, M. D., Dr. P. H.

Professor of Public Health and Bacteriology.

In going over the old catalogs of the School of Medicine of the University of Louisville and of the several schools which eventually merged with it, the writer was able to find many interesting bits of information on the early teaching of Bacteriology in this city. As this had never been collected in a coherent form, it seemed wise to gather information from all available sources and consolidate the facts so gathered in a paper which would be available to the University in connection with its approaching centennial. The present paper is a brief resume of the facts which have been so compiled.

The records from which these items were taken are incomplete in some instances, and while the facts here presented are obtained from authoritative sources, errors of omission may be found in these pages.

It is evident that the forerunner of Bacteriology must of necessity have been Microscopy. The first mention of Microscopy in Louisville is in the year 1877, when the Hospital College of Medicine, located directly across Chestnut Street from the City Hospital in the building now occupied by the Salvation Army, instituted a single lecture on Microscopy by Dr. J. B. Marvin, later the first pathologist of the City Hospital. No formal course was given, however. The school was possibly more interested in developing its facilities in existing work than in adding courses in new subjects whose worth was then debatable.

It is of interest that the early catalogs of the school lay particular stress on the "well-cushioned opera seats" which furnished its amphitheatre, doubtless counting on this innovation to draw to it, and away from other city schools, students who considered gluteal comfort as well as opportunity for mental development in their choice of medical schools.

The first mention of actual laboratory work with microscopes is found in the minutes of the meeting of the Faculty of the University of Louisville held on December 14, 1878. Evidently some work was being conducted along these lines during that school year, as the minutes read, 'Dr. Holland reported that the laboratory work in Microscopy and Chemistry was giving general satisfaction; the only criticism upon it being that it was incomplete. He suggested the establishment of demonstratorships of Chemistry: of Histology: and of Surgical Dressings.'

Later in the same month (Dec. 23, 1878) the faculty drew up a series of resolutions defining the positions and duties of demonstrators and assigning them a rank which probably would now be that of an assistant or an instructor. Their salaries were fixed at $100 each, and for the courses which they offered, a fee of five dollars for a single course or ten dollars for all courses was charged. These courses were optional and students electing them were instructed in the evening so that the work would not interfere with that of the regular curriculum.

Dr. L. S. Oppenheimer was appointed as the first teacher of Microscopy, his title being "Demonstrator of Histology and Microscopy and Vivisections." Several Beck's microcopes* had previously been purchased by the Medical School so that the study of tissues, of urine, blood and the like might be practical rather than didactic.

In 1880, Dr. Oppenheimer's title was changed to "Demonstrator of Histology and Microscopy" and the catalog, taking serious note of these courses for the first time, states, "It is especially recommended that first course students take Medical Chemistry and Microscopy for which a five dollar fee will be charged."

During the next year Dr. H. A. Cottell,** formerly librarian and curator of the museum as well as Demonstrator in Chemistry, became the Demonstrator in Microscopy and in 1882 this became a required course for all students. Dr. Cottell was made Professor of Chemistry and Microscopy in 1884 and an assistantship was created to take some of the teaching load from his shoulders. Dr. Alexander V. Griswold held this assistantship in 1886 and in 1888 it was taken over by Dr. H. M. Goodman whose multitudinous duties are attested by his title, "Assistant to the Professors of Physiology and Pathological Histology and Medical Chemistry and Microscopy." Truly, a versatile individual.

In this year (1888), at the end of a description of the course in microscopy, appears the following statement; ". . . . and special attention is paid to the culture and demonstration of the microbes of zymotic diseases." This is the first specific statement of the beginning of bacteriological teaching in the University of Louisville.

In 1889, Dr. E. R. Palmer, Professor of Physiology and Pathological Histology gave a course of introductory lectures on Bacteriology and a special optional laboratory course in this subject was offered by Dr. Goodman. Dr. Simon Flexner was connected with this course in the capacity of Demonstrator of Microscopic Technology, his appointment having been made by the faculty at a meeting held on May 13, 1889. The course itself is described as follows in the catalog:

"The study of micro-organisms in relation to disease has of late assumed such proportions as to demand the attention of the progressive practitioner. Bacteriology is the key to the solution of many pathological problems, since the demonstration of microbes in the blood, secretions, excretions and discharges of disease, is oftentimes essential to the correct diagnosis. In view of these considerations, the Faculty has established a Bacteriological Laboratory after the plans of Koch and Pasteur, in which many forms of innocuous germs and every known form of pathogenic microbe will be cultivated, mounted and microscopically observed by the student himself under the direction of the Demonstrator, Dr. Goodman.

The course is optional. The studies will be pursued at night. Classes of manageable size will be formed, each receiving about twenty lessons. All necessary appliances will be put at the student's disposal without extra charge, he being expected to furnish only glass slides and covers for the mounts which he makes for his private collection. These studies will be conducted during both winter and spring sessions.

For this course, if taken, a fee of $10 will be charged.''

In 1894 Bacteriology became a required part of the curriculum and was taught in a class which boasted the all-inclusive title, ''Physiology, Bacteriology and Pathological Histology.'' In 1896 Physiology became a separately taught subject. In 1898 Pathology and Bacteriology were divorced and Bacteriology was given as a separate course during the third year of the curriculum.

During this time three Demonstrators and Assistants had taught Bacteriology, the subject seeming beneath the dignity of the professor himself. Dr. John L. Howard, Dr. Gavin Fulton and Dr. Edward R. Palmer instructed in this field from 1891 till the close of the century.

In 1900 the late Dr. Vernon Robbins, brother of the celebrated evangelist, was appointed demonstrator of Bacteriology, an advancement from his previous position of Assistant to the Professor of Genito-Urinary Diseases, an appointment which he had just accepted the preceding year. Dr. Robbins remained Demonstrator of Bacteriology for nine years and under his guidance the course was increased considerably in scope. Dr. Robbins was Bacteriologist for the City Health Department at this time as well as Demonstrator in the University. The former position he held till his death in 1934. During the early years of the new century, yearly gifts from Mrs. W. J. Hogan were instrumental in increasing the equipment and in furnishing supplies necessary in conducting the course. The course was given on Mondays and Wednesdays during the Junior year from 3-5 P. M. and lasted throughout the year.

In 1907 Dr. Isaac Lederman became Professor of Diseases of the Eye, Ear, Nose and Throat and Bacteriology. In this year also Dr. Virgil Simpson was appointed Professor of Hygiene, a position which he held for a year. Dr. Lederman evidently found the added burden of Bacteriology too great and in 1908 he vacated this chair. His successor was not appointed till 1909 when Cyrus W. Field was made Professor of Pathology and Bacteriology and Dr. Harvey P. Barrett his assistant. So Pathology and Bacteriology once more joined hands in a union which was to last for twenty-two years. Laboratory work in Bacteriology was given in two weekly three-hour laboratory periods during the first ten weeks of the school year, pathology laboratory work consuming the remaining twenty-two weeks. One lecture in Bacteriology per week was given throughout the year.

Leon K. Baldauf became Adjunct Professor of Pathology and Bacteriology in 1910, and a year later assumed the Professor's chair which he held until the advent of Dr. Stuart Graves in 1914. Dr. Harry Weeter taught Bacteriology under Dr. Graves from 1922-1928.

Dr. Graves' successor was Dr. Aura, J. Miller, who was appointed Professor of Pathology and Bacteriology in 1928. Dr. George McLean Lawson became Professor of Bacteriology in the Department of Pathology and Bacteriology in 1929. In 1931 a separate Department of Bacteriology was set up and the pleasant twenty-two year connection with pathology was again broken. In 1931 the course in Public Health, left derelict by the resignation of Dr. Curry Martin, came under the wing of this Department and in 1933 the name of the Department was changed to the Department of Public Health and Bacteriology.

It would not be fitting to close without a word as to the men who have taught Bacteriology in Louisville in this and other schools. In the Kentucky School of Medicine, Dr. Carl Wiedner and Dr. Louis Frank taught Bacteriology in its early days and in 1897 Dr. Frank was appointed Professor of Bacteriology and Director in the Laboratory of Bacteriology. He is, therefore, the first full professor of Bacteriology in Louisville's history. Dr. Irvin Abell obtained his first teaching experience in the Department of Pathology and Bacteriology in 1899 at the same institution. Dr. John R. Wathen was its Professor after Dr. Frank.

In the Hospital College of Medicine a newly graduated student was made Demonstrator of Microscopy in 1891. This was the first teaching appointment of a man who has since continuously instructed in the medical schools of the city and is probably better known to University graduates than any other professor, Dr. Philip Barbour.

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* These microscopes, known as the ''Monocular Economic Microscope'' were made by R. & J. Beck of London. They were focused by a sliding tube rather than by the rack and pinion of the modern microscope. Their optical equipment consisted of a single eyepiece and two objectives, (1 inch and 1-4 inch) and their cost, complete with case and accessories, was $45.

** Dr. Cottell was the first physician west of the Alleghenies to demonstrate the tubercle bacillus to medical students.

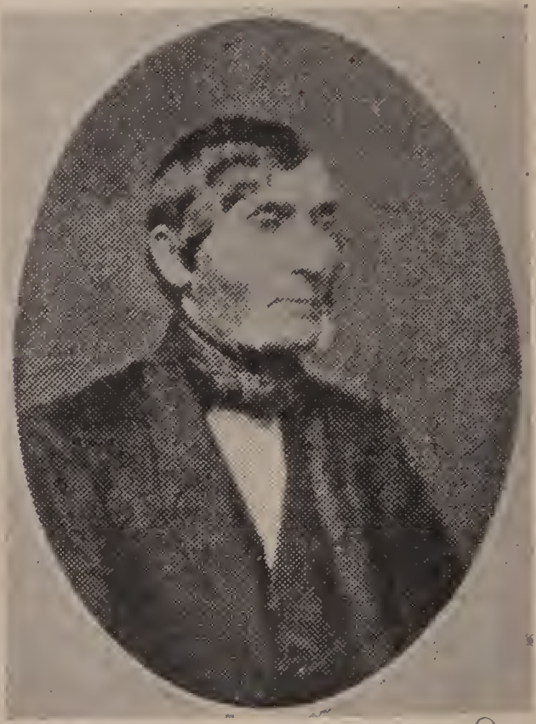
BIOGRAPHICAL SKETCHES OF LEADERS IN THE FIELD OF MEDICINE

EARLY SURGEONS OF THE UNIVERSITY OF LOUISVILLE

D. P. Hall, B. S., M. D., F. A. C. S.

Clinical Assistant in Surgery.

The following biographies were assembled from various sources, and in many instances the wording so suited the occasion that it seemed best to publish them without alterations.



Joshua Barker Flint
First Professor of Surgery in the University of Louisville.

C

Dr. Flint was born in Massachusetts October 13, 1801. He received his A. B. degree from Harvard University in 1820 and his M. D. from Harvard Medical School in 1825. He was a pupil of Dr. John Collins Warren and was in 1835 co-editor of the Medical Magazine. On the founding of the University of Louisville in 1837 he was selected as the first professor of surgery and in 1838 was sent to Europe to purchase the library for the university, at which time he made the acquaintance of Cooper, Liston, Brodie, Nelaton, Syme, and Simpson.

He was married in 1841 to Nancy Shackelford in Louisville.

Dr. Flint founded the Kentucky School of Medicine in 1850 and was the first surgeon to administer ether in the West in 1846. Dr. Flint was an excellent operator and a surgeon of rare judgment. Socially he was most charming and was a dignified teacher of the facts and truths of a serious science.

He was president of the Kentucky State Medical Association in 1859. He was Kentucky's first systematic surgical educator, Dr. Flint died March 19, 1863.

Samuel David Gross
Professor of Surgery.

C

In the Woodlands Cemetery, Philadelphia, is an urn containing the ashes of Samuel D. Gross with this inscription in part: "A master in surgery." He filled chairs in four medical colleges, in as many states of the union, and added lustre to them all. He recast surgical science as taught in North America, formulated anew its principles, enlarged its domain, added to its art, and imparted fresh impetus to its study. He composed many books and among them "A System of Surgery," which is read in different tongues, wherever the healing art is practiced.

Samuel David Gross was born near Easton, Pennsylvania, July 8, 1805. He was the son of Philip and Johanna Juliana Gross, being the fifth of six children—two girls and four boys. Before he was six years old he determined to be a surgeon, and early in his professional studies to be a teacher. Yet when he was fifteen he knew scarcely any English. Brought up among the sturdy, honest, laborious Pennsylvania Dutch, he could speak that curious English-German. But his English, of which he became so fluent a master, and even pure German, which he began to study at the same time, were learned almost as foreign tongues and as a result of his appreciation at that early age of his need for a better and wider education.

At nineteen he began the study of medicine, a study in which for sixty years his labors never for a moment ceased or even relaxed.

In 1828, at the age of twenty-three, he took his degree in the third class which was graduated from the Jefferson Medical College. He opened an office first in Philadelphia, but soon removed to Easton. His "stimulus," he himself says, "was his ambition and his poverty."

In 1833, five years after his graduation, he entered upon his career as a teacher—a career which continued for forty-nine years, till within two years of his death. This took him first to Cincinnati as demonstrator of anatomy in the Medical College of Ohio. In 1835 he became professor of pathological anatomy in the Cincinnati Medical College, where he was a colleague of Daniel Drake, Willard Parker and James B. Rogers.

In 1840 he came to the University of Louisville as professor of surgery, and excepting one year when he was professor of surgery in the University of the City of New York, he remained here for sixteen years, happy in his family, his students, his flowers, and his generous hospitality. He and his colleagues —Drake and Austin Flint soon made it the most important medical center in the West, and he was in surgery the reigning sovereign. While here he published, in 1851, his work on "Diseases, Injuries and Malformations of the Urinary Organs," and in 1854 another pioneer work, that on "Foreign Bodies in the Air Passages." His fame had become so great that he was invited to the University of Virginia, the University of Louisiana, the University of Pennsylvania, and other schools. But he was steadfast to Louisville until his beloved Alma Mater called him to the chair just vacated by Mutter in 1856.

Three years after he entered upon his duties at the Jefferson he published his splendid "System of Surgery"— a work which, though in many respects now obsolete as to its pathology and its practice, is a mine of information, a monument of untiring labor, a text-book worthy of its author.

He married a lady of English descent of many accomplishments, who proved indeed a helpmate—one who, with hopeful courage, lightened the burden of care during the struggles of his early life, and enriched the glories of his triumphs in the meridian of his manhood. The best of fathers, he had in his later years of retirement the constant companionship and care of the most devoted of children. His son, Dr. Samuel Weissell Gross followed in the professional footsteps of his father.

As a surgeon Gross was painstaking, thorough and careful in his investigation of a case, skillful as an operator, and, having so vast an experience and equally extensive acquaintance with the wide literature of his profession, he was scarcely ever perplexed by the most difficult case and rarely at a loss as to the proper course to pursue in the most unexpected emergencies.

His influence on the profession was marked and wholesome. For many years he was almost always at the annual meetings of the American Medical Association and the American Surgical Association, was looked up to in both as the Nestor of the profession, and his papers and his wise words of counsel molded both the thought and the action of his brethren to a notable degree. He founded two medical journals, was the founder of the Pathological Society of Philadelphia and of the Philadelphia Academy of Surgery, the founder and first president of the American Surgical Association, and the first president of the Alumni Association of the Jefferson Medical College.

As an author, his chief characteristics were untiring industry, comprehensiveness, methodical treatment of his subject, and a singular felicity of style, especially for one who acquired English so late and with difficulty. In fact, through life his speech, by a slight, though not unpleasant accent always betrayed his German descent.

He blazed more than one new trail in the forests of surgical ignorance. In the early part, and even in the middle of the nineteenth century, it was rare for Americans to write medical books. The most they did was either to translate a French or a German work or to annotate an English one. He was one of the earliest to create an American medical literature of importance, and his works on the urinary organs, on foreign bodies in the air passages, and his text-book on surgery gave a position to American surgery abroad which we can now hardly appreciate; while, as already related, his pathological anatomy was the very first work in the English language on that most important branch. In 1861 he edited ''American Medical Biography,'' and in 1887 his autobiography, with sketches of his contemporaries, was published.

His experiments and monograph on ''Wounds of the Intestines'' (1843) laid the foundation for the later studies of Parkes, Senn, and other American surgeons, and have led to the modern rational and successful treatment of these then so uniformly fatal injuries. He first advocated abdominal section in rupture of the bladder, the use of adhesive plaster in fractures of the legs, amputation in senile gangrene, and the immediate uniting of tendon to tendon when they were divided in an incised wound. Had he lived but a year or two longer, bacteriology would have shown him that scrofula was of tuberculous origin, and not, as he so firmly believed and vigorously taught, a manifestation of hereditary syphilis.

That his eminence as an author should have met with recognition from scientific organizations and institutions of learning is no cause of surprise. It made him the president of the International Medical Congress of 1876, a member of many of the scientific societies of Europe as well as of America, and won for him the LL. D of the University of Pennsylvania, and I believe the unique honor in America of having had conferred upon him the highest degree of all three of the leading universities of Great Britain—Oxford, Cambridge, and Edinburgh. Indeed, it is both significant and pathetic to note that he laid down his pen just after recording in his autobiography the announcement of the honor which the University of Edinburgh intended to bestow upon him at its tercentenary celebration.

Dr. Gross first established the fact that Ephraim McDowell was the father of ovariotomy and published his findings in the 'Transactions of the Kentucky State Medical Society'' in 1852.

Dr. Gross gave the dedicatory address at the unveiling of the monument erected by the Kentucky State Medical Association, in honor of Dr. Ephraim McDowell. It was while listening to this address that Dr. J. N. McCormack received his inspiration for public health work.

Henry Miller

Professor of Obstetrics and Gynecology
President of the American Medical Association.

In the latter part of the eighteenth century there emigrated from Maryland to Kentucky the parents of Henry Miller. Of German descent, and therefore of that sturdy character which has contributed so much to the best citizenship of this country, they became one of the three original families of the town of Glasgow, in the county of Barren, where on November 1, 1800, Henry Miller was born His early years were spent in his native village, his companions and associates the descendants of these bold pioneers. Such associations, together with the strong German blood in his veins, gave him the rugged physique and traits of character for which he was noted. He attended the schools of his native village where he acquired a good knowledge of English and subsequently of Greek, Latin and Mathematics He began to study medicine when seventeen under Drs. Bainbridge and Gist, two Glasgow practitioners. In those days there were few drug stores, and pharmacy and dentistry were departments of medicine and the physician always kept a supply of drugs in his "shop," also extracting teeth and practicing venesection. After two years Miller entered the medical department of Transylvania University at Lexington, Kentucky, and attended his first course of lectures, at the end forming a partnership with his preceptor, Dr. Bainbridge, and practicing until the fall of 1821 when he returned to Lexington and attended his second course, graduating with honors. Thesis: "On the Relation Between Sanguiniferous and Nervous System." His inaugural thesis bore such distinct marks of genius and so highly was it esteemed by his brethren that it was published at the time, no ordinary compliment in those days. He returned afterwards to practice in Glasgow and the following year was elected demonstrator of anatomy in his alma mater without even being consulted. He gave up his position at once and went to Philadelphia, making the trip on horseback, in order that he might better equip himself for the place to which he had been elected. On account of some dissensions in the faculty, he soon resigned his position and again returned to Glasgow until 1827, when he removed to Harrodsburg, Kentucky, and practiced for nine years. In 1837 the Medical Institute of Louisville was founded with Dr. Miller as professor of obstetrics and diseases of women and children, a chair he retained until 1858. In 1867, nine years after retirement from the University, he was recalled by the creation of a special chair for his occupancy, that of medical and surgical diseases of women. He soon resigned this position, but two years later accepted a similar chair in the Louisville Medical College which he retained until his death, February 8, 1874.

Dr. Miller was widely known abroad as well as at home as an author. In 1844 he published his chief work, "Theoretical and Practical Treatise on Human Parturition," which was revised and republished under the title "Principles and Practice of Obstetrics" (1858), a work recognized for years as an authority. He accepted nothing as true without thorough investigation and most critical study. He was a frequent contributor to the various medical journals at the time and his articles carried with them the weight of authority. In 1859 he was elected president of the American Medical Association at its annual meeting in Louisville. He was the first in Louisville and one of the first in the United States to employ the vaginal speculum, or to employ anesthesia in obstetric practice in Louisville.

June 24, 1824, Dr. Miller married Clarissa Robertson, and had seven children, one of whom, Edward, became an eminent surgeon.

A partial list of his writings is given in the "Surgeon-general's Catalogue," Washington, D. C. Editor Louisville Journal of Medicine and Surgery with L. P. Yandell and T. S. Bell. His "Oration on the Anniversary of the Kappa Lambda Society of Hippocrates" delivered in Lexington 1822 is a rare item. 1871 "Retrospect of Uterine Pathology and Therapeutics in United States especially in regard to intrauterine medication in Chronic Metritis."

Lunsford Pitts Yandell

Professor of Chemistry and Medicine.

Briefly summed up, the professional life of Lunsford P. Yandell is that he graduated M. D. from the University of Maryland, 1825, and was professor of chemistry, Transylvania University, 1831-1837; founder of Louisville Medical Institute, 1837, which became University of Louisville, 1846; professor of chemistry, materia medica, and physiology, in the University of Louisville 1837-1858; geologist; minister of the gospel (Presbyterian), 1862; editor Transylvania Medical Journal, Lexington; editor Western Medical Journal, Louisville; president Kentucky State Medical Society, 1878.

He was born July 4, 1805, on his father's farm near Hartsville, Sumner County, Tennessee; his father, Dr. Wilson Yandell, being a native of North Carolina. Of Lunsford's childhood and early school days nothing is known. He began to study medicine under his father, attended one course of lectures at the Transylvania University, Lexington, Kentucky, and another at the University of Maryland. After six years' practice in Tennessee, he was called to the chair of chemistry in the Transylvania University. This chair he held until 1837, when he came to Louisville, where he was founder of the Medical Institute which in 1846 became the University of Louisville. During the war he was for a time in the hospital service of the Confederacy. In 1862 he was licensed to preach by the Memphis Presbytery, and served as pastor of a church in Dancyville, Tennessee, but in 1867 he returned to Louisville and resumed practice, though preaching frequently, as occasion offered. He devoted much time to literary work and geological research, in these departments being a pioneer in the West. He made many valuable contributions to paleontology, preparing numerous papers and enriching the science through discoveries in fossils. As early as 1847 he published, with Dr. B. F. Shumard, "Contributions to the Geology of Kentucky." In 1848 a note by Professor Yandell concerning the discovery of calcareous arms in Pentremites Florealis was published in the Bulletin of the Geological Society of France. In 1855 he discovered a new genus of Crinoidea, which he named Acrocrinus Shumardi.

Sir Charles Lyell, Prof. Owen, and other masters in paleontology recognized the value of his work, and his name stands memorialized and immortalized in fossils as follows: Platycrinus Yandelli (Owen and Shumard); Actinocrinus Yandelli (Shumard); Chonetes Yandellana (Prof. James Hall); Amplexus, Yandelli (Edwards and Haime); Trachonema Yandellana (James Hall); Phillips Astrea Yandelli (Dr. C. Rominger).

In all the years of his busy life, he was unresting in the labors that he loved. They were diversified, but such was the skill he displayed in each department which he adorned, that in looking at any one specimen of his work we might have supposed that one was his vocation. Whether he wrote history, essays upon geology, on medical themes, biography, the advancement of education, or the wisdom, the power and beneficence of the Creator in His works he seemed to make each theme his own, and he adorned it with life and beauty. Independently of his lectures, he wrote fully one hundred papers on the various subjects that he had studied, and they are papers of profound interest. Among his medical and general-literature papers, the best known are: "History of American Literature: " "History of Kentucky Medicine," A Review of the Last of the "Idyls of the King," Tennyson; "The Diseases of Old Age" (completed and sent to the printer a few days before his death).

He married twice: first Susan Juliet Wendel and had six children. His second wife was Eliza Bland by whom he had no children.

His death on the fourth of February, 1878, was caused by pneumonia, after a few days' illness. Being in pain he asked his son for a portion of opium, and when laudanum was given him, in the Latin of his favorite, Sydenham, he said: "Magnum donum Dei," and these were his last words.

A list of his writings may be found in the Library of the Surgeon General's Office, Washington, D. C.

David Wendel Yandell
Professor of Surgery.
President of the American Medical Association.

He was M. D., LL. D. (University of Louisville); soldier of the Civil War (South Carolina); medical director of the Department of the West; professor of clinical surgery University of Louisville; editor and founder of the American Practitioner; president of the American Medical Association (1871); surgeon-general of the troops of Kentucky; president of the American Surgical Association; pioneer in clinical teaching in the west; honorary fellow, and corresponding member of the Medico-Chirurgical Society of Edinburgh and fellow of the Medical Society of London.

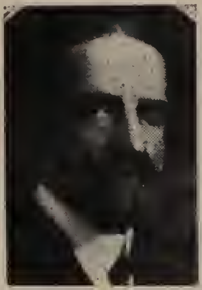
Dr. Yandell was born at Craggy Bluff, Tennessee, on the fourth of September 1826. The ancestors of the Yandells came from England and settled in South Carolina. His grandfather, Dr. Wilson Yandell, was the most noted physician in this locality. His father was Dr. Lunsford Pitts Yandell of blessed memory, professor in old Transylvania and a founder of the University of Louisville; his mother was Susan Juliet Wendel, a daughter of David Wendel, of Murfreesboro, Tennessee. After a course at Centre College, Danville, he studied medicine at the University of Louisville and graduated in 1846. That year he went to Europe, where he continued his studies for nearly two years and wrote two series of letters (one secular, the other medical) which established his reputation as a writer. In 1850 he was made demonstrator of anatomy in the University of Louisville. About this time he established the "Stokes Dispensary," the first clinical institution in the West, and later was elected to the chair of clinical medicine in the University. When the Civil War began Yandell became a soldier in the Confederate Army, and was made Medical Director of the Department of the West, by Gen. Albert Sidney Johnston, and was in the battles of Shiloh, Murfreesboro, and Chickamauga. In 1867 he was elected to the chair of the science and practice of medicine in the University of Louisville, and in 1869 took there the chair of clinical surgery. As a teacher of clinical surgery he had few rivals.

In operating he cut to the line and to the required depth with geometrical precision. His dissections were artistic, and he found his way through the labyrinthine surgical spaces with certainty and safety. His dressings were beautiful, while his treatment of wounds, surgical and accidental, was characterized by a scrupulous cleanliness, which in post bellum days was prophetic of aseptic surgery. In 1870, in conjunction with Theophilus Parvin he established The American Practitioner, which held high place in medical literature for sixteen years (1886), when it was combined with the Medical News, under the name American Practitioner and News. He was editor-in-chief of this journal till the year of his death. All his writings were forceful, terse, and condensed. One of his own papers, published in the second volume of the Practitioner, is a classic. This is an analysis of 415 cases of tetanus.

His nature was gentle and affectionate; his liberality and benevolence conspicuous. He married Frances Jane Crutcher, of Nashville, Tennessee, in 1851, and had four children, a son and three daughters. He died in Louisville, Monday, the second of May, 1898, of arterio-sclerosis, his last illness stretching over a period of five years. During the last two years his mind was a blank.

His contributions to literature include:

"Notes on Medical Matters and Medical Men in London and Paris," Louisville, 1848; "Reply to the Attack of Dr. E. S. Gaillard" (American Practitioner, Louisville, 1871); "A Clinical Lecture on the Use of Plastic Dressing in Fractures of Lower Extremity," 1876; "Pioneer Surgery in Kentucky;" a sketch, 1890; "Temperament," an address, 1892; "Battery's Operation," 1875.



WILLIAM LOUIS RODMAN
Professor of Surgery.
President of American Medical Association.

William Louis Rodman was the second son and the fourth child of John and Harriet V. Rodman, having been born at Frankfort, Kentucky, on September 5, 1858. At the time of Dr. Rodman's birth his father was attorney general of the state and enjoyed a large law practice in Frankfort. Dr. Rodman received his early schooling in Frankfort and at the Kentucky Military Institute from which he graduated with the degree of master of arts in 1877. His early interest in medicine was stimulated by his kinsmen, Drs. W. B. and James Rodman, each of whom had been successful in his chosen field of general practice and neuropsychiatry, respectively.

William L. Rodman entered Jefferson Medical College, Philadelphia, in the fall of 1877 and graduated in 1879. He and his close friend, Dr. W. L. Kneedler, then became the first two internes in the Jefferson

Hospital where he served during the years 1879 to 1880. It was in this Hospital that Dr. Rodman came under the stimulating influence of that master of surgery of his day, Dr. Samuel D. Gross, and of the latter's gifted son, Dr. Samuel W. Gross. From the younger Gross he received his early training in surgery of the mammary gland, a subject which later in his life commanded a large part of his interest.

Upon finishing his year of interneship at the Jefferson Hospital, Dr. Rodman entered the Medical Corps of the United States Army as a contract surgeon. He was stationed at Fort Sill, then Indian Territory, for 18 months and had, during that time, many interesting experiences in Indian raids. In the service of the Army he made many friends whom he enjoyed throughout his life; in fact his last act was to help to secure the passage through Congress of a bill in which the Medical Corps of the Army was vitally interested. He also made many friends among the Indians, seeing much good in the traits of the best of them.

The Medical Corps did not offer him, he believed, as good an outlet for his surgical ambition as did civil practice, so in 1882 he resigned, returned to his native state of Kentucky to marry Bettie Crawford Stewart, the eldest daughter of Dr. J. Q. A. Stewart, and as at the moment there was no opportunity for him there, he accepted an offer to assist his cousin, Dr. John Rodman, with a rapidly growing general practice at Abilene, Texas. He spent two very busy years at Abilene but feeling that the ambition of his life to practice and teach surgery could no longer be delayed, returned again to Kentucky where he established himself in Louisville. Dr. Rodman was again fortunate in that he then became associated with Dr. David W. Yandell, the professor of surgery at the University of Louisville and the most gifted of southern surgeons. Dr. Yandell had few equals as a teacher of surgery and it was from him that Dr. Rodman received his start in surgical teaching, a part of his work which he always enjoyed. For 7 years he served as prosector (1888) demonstrator of operative surgery, and chief of clinic under Dr. Yandell at the University of Louisville; graduated in 1889 from University of Louisville with Simon Flexner. In 1891 with W. H. Wathen, Fouschee W. Samuel and James M. Holloway he became professor of surgery in the Kentucky School of Medicine in Louisville, serving in this capacity until he accepted the chair of the principles and practice of surgery in the Medico-Chirurgical College in Philadelphia, in 1898. His work both in the operating theater and in surgical literature during these years won for him national recognition, as is evidenced by his election to the chairmanship of the surgical section of the American Medical Association in 1898 and also to fellowship in the American Surgical Association. He served at one time as president of the American Medical College Association.

Dr. Rodman's career from the time of his coming to Philadelphia in 1898 to the time of his death in 1916 was varied in its interests between teaching, and active surgical service in several hospitals, and the affairs of the American Medical Association. He served the latter body as trustee after being chairman of the surgical section and in 1915 was elected its president, holding this office at the time of his death in March, 1916.

The two subjects which occupied his greatest surgical interest were the mammary gland and the stomach. In 1908, he published his monograph on "Surgery of the Mammary Gland with Especial Reference to Carcinoma." The technique for radical amputation of this gland evolved by him at that time and used so successfully by him and many others since, was one of his chief contributions to surgery. In his oration in surgery in 1900 to the American Medical Association, he was the first to advocate partial gastrectomy for ulcer of the pylorus, a principle which has proved so sound as to be the accepted practice of the day. In 1915 while president of the American Medical Association he founded the National Board of Medical Examiners. He did not live to see its first examination held in October, 1916, but this board has since its organization grown to an established place in medicine in this country and abroad.

Dr. Rodman was always gracious and interested in the welfare of the students from the South who came to Philadelphia to study medicine assisting many financially to complete their course and also in securing good interneships.

His course in surgery at the Woman's Medical College of Pennsylvania was recognized as one of the best courses offered in that city.

He died of pneumonia on March 8, 1916, after an illness which had lasted only 5 days. He was then but 58 and at the height of his usefulness. Dr. Rodman had during his day no superiors and but a few equals as a surgical teacher. His command of English was exceptional as shown in his lectures and many contributions to surgical literature. He was a natural leader of men and left the surgical world the better for his having played his part.

James Montgomery Holloway

Professor of Surgery.

James Montgomery Holloway was born in Lexington, Kentucky, July 14, 1834, going with his father, William P. Holloway, at the age of twelve, to Grand Gulf, Mississippi. His medical studies were pursued in the University of Louisiana, now Tulane University. After graduating there in 1858 he spent one year as interne at Touro Infirmary and later became a private student with Dr. Warren Stone at the New Orleans Charity Hospital. Dr. Holloway began practice in Madison County, Mississippi, but at the beginning of the Civil War enlisted in the Confederate Army as a private, soon after becoming a surgeon with the rank of major. After seving with distinction in this capacity for one year in the field he was placed in control of the hospital service at Richmond, Virginia, where he remained until the close of the war. He then came to Louisville and was appointed professor of anatomy in the University of Louisville 1865, at the end of one year being transferred to the chair of physiology and medical jurisprudence which he resigned in 1867.

In 1873 the Hospital College of Medicine was organized with Dr. Holloway as the first Professor of General and Clinical Surgery. Later he accepted the professorship in surgery in the Louisville Medical College which he occupied for eight years and becoming professor of clinical and operative surgery in the Kentucky School of Medicine. The Medical Department of the University of Kentucky was organized in 1898 and Dr. Holloway accepted the professorship of surgery, a position he held until his death.

Dr. Holloway gave his practice the closest attention and was renowned for his promptness in meeting all engagements. He was very much beloved by his clientele and generally well liked by the profession. It is claimed that Dr. Holloway was the physician who suggested to the late Emil Scheffer, the pioneer manufacturer of pepsin, the substitution of the pepsin from the hog's stomach instead of that of the calf as an aid to digestion. In 1858 Dr. Holloway married Annie Warren and had five children, one of whom, Samuel Warren, also became a doctor.

Dr. Holloway was a surgeon of the old school spanning the years from "laudable pus" to asepsis. He was the activator of many young surgeons, such as W. L. Rodman and F. W. Samuel.

He held the enviable reputation of having occupied through the years six professorships in four Louisville Medical Schools.

Dr. Holloway passed away in 1905 in the twilight of his surgical career—

A kind and gentle heart he had,
To comfort friends and foes.

William Hudson Wathen

Professor Abdominal Surgery and Gynecology.

Born near Lebanon, Kentucky, January 23, 1846, his father was Richard Wathen, and his mother, Sophia Abell Wathen. His ancestors migrated from St. Mary's County, Maryland, in 1783, and settled near his place of birth. His early training was in the district schools and his academic work was at St. Mary's College; he received his medical education at the University of Louisville, graduating in 1870 with W. O. Roberts and one year after John W. Wyeth (1869) founder of the New York Policlinic Medical School.

In 1871 he married Miss Kate P. Roach, and four daughters and one son were born; the son, Dr. John R. Wathen being professor of surgery in the University of Louisville.

William H. Wathen was the guiding hand of the Kentucky School of Medicine and served as its dean for a number of years, holding the chair of gynecology and abdominal surgery on its faculty that he retained after the consolidation with the University of Louisville.

He was a fellow of the American Gynecological Society; president of the Kentucky State Medical Society in 1888; a member of the Southern Surgical and Gynecological Society, the Mississippi Valley Medical Society, the American Association of Obstetricians and Gynecologists; chairman of the section on obstetrics and gynecology of the American Medical Association in 1889 and orator on surgery in 1907.

He did much work in surgery and was a leader among the specialists in his state, especially in the field of vaginal surgery; a tireless, enthusiastic worker, a contributor of many surgical papers to the journals and society transactions, Wathen's Dilator, Wathen's Modification of Pryor Vaginal Hysterectomy.

He continued his daily work up to his death of angina pectoris at St. Anthony's Hospital, October 7, 1913.

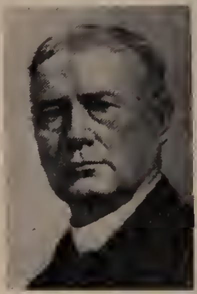
Joseph McDowell Matthews

Professor of Rectal Surgery

President of the American Medical Association.

Joseph M. Mathews was born in Henry County, Kentucky, May 26, 1847, being a kinsman of Ephraim McDowell. He attended the public schools in New Castle, Kentucky and graduated from the medical department of the University of Louisville in 1867. Returning to his native county he did general practice for about three years at which time he moved to Louisville and was in general practice until 1877. At this time he became convinced of the neglect of the treatment of rectal diseases not only by physicians, but also by quacks. He, determined to devote his life to this field of surgery, going to London he associated himself with Mr. Allingham in St. Mark's Hospital. Returning to Louisville he practiced Proctology from 1878 until 1912.

In 1880 he was made professor of surgery in the Kentucky School of Medicine and in 1883 a department of rectal diseases was established in this school, this being the first medical school to have a separate department of rectal diseases. He later became professor in the University of Louisville.



Joseph McDowell Mathews

He was president of the Kentucky Medical Society in 1898, president of the American Medical Association in 1899 and organized the American Proctologic Society in June 1899. He has been often referred to as the father of Proctology.

Dr. Mathews was a pioneer in the field of Proctology, and many of his pupils today are leaders and teachers in this subject. He was an ardent advocate of public health when the subject was in its infancy and when few physicians deemed it of sufficient importance to merit attention. His prominence as a teacher and the national recognition he secured as a surgeon added weight to his views, and public health in Kentucky became a reality.

In 1895 Dr. Mathews wrote a very popular book on Proctology. In 1902 he published a book on how to succeed in the practice of medicine. He published for several years "Mathews Medical Quarterly." In 1898 he was elected president of the Kentucky State Board of Health and the University of Pennsylvania conferred upon him the degree LL. D. In 1912 he retired to California where he died December 21, 1928.

Lewis Samuel McMurtry

Professor of Abdominal Surgery and Gynecology.

President of American Medical Association.

Born in Harrodsburg, the seat of the first capital of Kentucky on September 14, 1850, of Scotch descent, Louis Samuel McMurtry was reared and educated in the Blue Grass, the aristocratic section of the State, and died in Louisville, the seat of his labors for over thirty-five years, on February 1, 1924.

Danville was long the cultural center of the State and it was here that young McMurtry obtained his academic education, receiving his degree in 1870. His alma mater,

Lewis Samuel McMurtry

Centre College numbered many distinguished names among its alumni. Unquestionably the atmosphere in which he at this time lived must have fired his ambitions and desires and have played no small part in determining him not only to study medicine, but to follow in his professional career along the same lines as the immortal McDowell.

At Danville, McMurtry came early, most likely during his academic studies, under the influence of Dr. John D. Jackson, a scholar, a student, a gentleman, and a philosopher, as well as a surgeon of distinction. He read medicine with Jackson for a year or two, dissecting the human body and becoming well grounded in anatomy before entering medical college.

Is it to be wondered at that he was enthusiastic in his studies or that he graduated after his course at Tulane with the honors of his class? His graduation in 1873 was followed by an interneship at the old Charite where he was chief medical resident. During this time he presented several papers bearing upon important medical topics. His impress upon his professors during these student days was so great that he was invited to make the address to the graduating class two years later.

Returning after his graduation to Danville he took up the active practice of medicine and surgery. With a year's intermission, during which time he taught anatomy in the University of Louisville, he continued his practice in the community until he moved to Louisville in 1888. These were busy years. Although the demand on his time in general practice was very great, he continued a diligent student of surgery and was one of the early converts to Listerism having been a student of the work of Pasteur. He was a life long admirer of the great French scientist. During this period his surgery was not confined as later, to abdominal and pelvic work as may be noted by his papers which include the report of a successful ligation for aneurism of the subclavian artery and papers on general surgery.

As stated earlier in this sketch he had been much impressed with the work of McDowell and determined to confine his work to abdominal and gynecological surgery which had become recognized as a distinct specialty as a result of Lawson Tait's studies in pathology. He therefore made a tour to Birmingham and became a student of this great and incomparable master. Perceiving on his return to his native State that his work demanded a wider field or usefulness, he removed to Louisville. The demands upon him were great; his reputation as a surgeon had already been made. He was at this time widely and favorably known and his state medical association honored itself and him by electing him as its president in 1888.

It was about this time in his professional career that McMurtry became the intimate of Howard Kelly and Joseph Price. With these two he was most active in society work and in the promulgation of the newer concepts of the pathology of the female pelvis and its treatment and in preaching the doctrine of aseptic surgery. His reputation became international and he took a very prominent part in medical societies, his discussions being at all times forceful, logical and convincing. The early advances in American surgery, its rapid strides, and the marvelous development of abdominal and general surgery was in a large measure due to these pioneers.

McMurtry had become internationally known ten years before this period as a result of his labors not only in establishing the claims of McDowell to priority in the field of ovariotomy but also in taking up the work of his preceptor, Dr. Jackson, in fostering the erection of a memorial to the great McDowell.

In 1890, McMurtry was called to the chair of abdominal surgery and gynecology in the Hospital College of Medicine, which chair he filled with distinction, being shortly made President of the faculty and occupying these appointments in the school until it was merged with the University of Louisville in 1910. He was most active in bringing about the merger of the medical colleges in Louisville and became president of the Medical Department of the University of Louisville remaining as such until the time of his death.

Of most genial disposition he was quick to resent what he deemed a wrong or an injustice. A friend of the young striving beginner, he demanded merit and hard work. Cultured and courtly in manner he was a raconteur of the rarest order and loved nothing better than association with congenial fellowmen. His life and work was in itself a poem, his operations were epics. He was, as all great men are, a lover of good literature and of the poets. He was a brilliant conversationalist and his travels and reading made him a most interesting companion.

He was particular in dress as he was in choice of language and because of his charming manner he was often called upon not only to preside at meetings but to make addresses, public and professional.

As a surgeon of keenest judgment, as an operator of brilliant and marvelous technique, as a diagnostician of wonderful acumen, insight, and sound reasoning, McMurtry had no superior and few equals, certainly in pelvic surgery. His early work with that of Price and Kelly has left its mark upon American surgery of today.

Doctor McMurtry in addition to his membership in the American Medical Association of which he was president in 1905-1906 was an active member of his state and county societies, a fellow of the British Gynaecological Society and of the Edinburgh Society of Obstetricians, and one of the founders of the American Society of Obstetricians and Gynecologists, of the Southern Surgical Association, and also of the American College of Surgeons in which he took a most active interest. He was a member of the American Surgical Association and at the time of his death was president of the Kentucky State Board of Health which post he had held since 1919.

During the great World War, he organized the first unit in Kentucky that saw oversea's duty. He was appointed by the Surgeon General as Military Aid to the Governor which post he filled until its duties became too onerous.

His illness was a short one, death being due to pneumonia of four days' duration. When the time came to join the innumerable caravan he went,

> "Like one that draws the drapery of his
> couch about him and lies down to pleasant dreams."

Turner Anderson

Professor of Abdominal Surgery and Gynecology.

Turner Anderson was born in Meade County, Kentucky, August 10, 1842; the son of Richard Taylor Anderson and Bettie Alexander Anderson. He studied medicine at the Cincinnati College of Medicine and Surgery, graduating there in 1862 and settling to practice in Louisville.

He enlisted in the Union Army during the Civil War and was assistant surgeon at Brown Hospital, Louisville, and afterwards surgeon major to the twenty-eighth Kentucky Infantry. At the close of the war he married Anna Evans who died three years later, leaving him a daughter, Mrs. Austin Ballard. His second wife was Sarah G.; daughter of Rev. John G. Simrall of Fayette County, Kentucky. Three children survive, Mrs. Peter Lee Atherton, Mrs. Kenneth Blackfon, wife of Dr. Blackfon, Professor of Pediatrics in Harvard Medical School and Dr. Simrall Anderson who is carrying on his father's tradition.

Dr. Anderson was professor of the Principles and Practice of Medicine and Diseases of Children in the Kentucky School of Medicine from 1883 to 1885; occupying the same professorship in the Louisville Medical College during the same period; Professor of Obstetrics and Diseases of Women and Children in the University of Louisville from 1885 to 1887; Professor of Obstetrics and Gynecology in the same institution from 1897 to 1907; Professor of Abdominal Surgery and Gynecology from 1907 to time of his death in 1908.

He was president of the College of Physicians and Surgeons of Louisville; a member of the Louisville Obstetrical Society, the Kentucky State Medical Society and its vice-president in 1874.

Endowed with the courage which comes from a thorough acquaintance with a subject, he was a bold operator, with admirable technic. His first hundred laparotomies were all successful, and to him is ascribed priority in the subperitoneal treatment of the pedicle in hysterectomy. He promulgated Anderson's modification of Kelly's operation for perineorrhaphy and was the first surgeon west of the Alleghenies to do pneumonotomy for the draining of pulmonary abscess.

Dr. Anderson was a genial, clever but practical man greatly venerated by his students and a favorite with the faculty. His death on the thirteenth of October, 1908, deprived Louisville of a fine surgeon and a good Christian citizen.

Let others hail the rising sun,
I bow to that whose course is run.

A. MORGAN CARTLEDGE

Professor of Abdominal Surgery and Gynecology

Abiah Morgan Cartledge, Jr., was born in Chester, South Carolina on November 24, 1858, the son of the Reverend A. M. and Louise Cartledge. The Reverend Cartledge was a Baptist minister and, in addition, was headmaster of a small private school.

When eighteen years of age, A. M. Cartledge, Jr., came to Louisville and entered the Hospital College of Medicine. He was graduated from this institution February 24, 1882. On March 14, 1882 he was appointed a house physician of the Louisville City Hospital; and on April 6 of that year he became a member of the Kentucky State Medical Society.

Dr. Cartledge was married on January 21, 1886 to Miss Ella Gardiner. Of this union two children were born: A. Morgan III, who did not survive, and Anna, now the wife of Richard R. Williams of Louisville.

Dr. Cartledge began his professional career in general practice, but he very soon limited his work entirely to surgery. Appointed to the surgical faculty of the Hospital College of Medicine in 1885 where he remained until 1888 accepting the demonstratorship of anatomy in the Kentucky School of Medicine.

His especial fitness and qualities as a surgeon and teacher were recognized by the faculty of the Louisville Medical College, who tendered him the chair of surgery and clinical surgery in 1890. This he filled with great credit and honor to the college until 1894 when he was made professor of gynecology and abdominal surgery, this professorship he retained until the organization in 1907 of the Louisville and Hospital College of Medicine, in this school he was professor of abdominal surgery and gynecology for one year, until his death.

He was interested in the progress of scientific surgery and displayed his keen interest in the many medical societies of which he was a member, the Louisville Surgical Society, Kentucky State Medical Association, Jefferson County Medical Society, American Medical Association, Mississippi Valley Medical Association, Louisville Medico-Chirurgical Society and the Southern Surgical and Gynecological Association of which he was president in 1900.

The greater number of his contributions to surgical literature were read before the last named society. His last contribution being "Some Remote Symptoms and Effects of Cholelithiasis." He had the distinction of removing the largest ovarian cyst in surgical history, a report of which appeared in Annals of Surgery, January 1900—"Mammoth Ovarian Tumors with Report of a Cyst weighing Two Hundred and Forty-five Pounds."

Dr. Cartledge was an editor of the Louisville Monthly Journal of Medicine and Surgery, consulting surgeon to the Louisville, Henderson, and St. Louis Railway, attending surgeon to the John N. Norton Memorial Infirmary and the Louisville City Hospital.

Dr. Cartledge died May 4, 1908 as the result of acute pulmonary edema. He died as he had lived—

A tower of strength
Which stood four-square to all the winds
that blew.

WILLIAM OWEN ROBERTS

Professor of Surgery

William Owen Roberts came to Louisville early in life and graduated from the Medical Department of the University of Louisville in 1870. After graduation he went to New York and graduated from the Bellevue Hospital Medical College in 1871. Returning to Louisville he became the assistant of the then professor of surgery in the University, Dr. D. W. Yandell. After some years he was made professor of clinical surgery in the university which position he held for a number of years. At the time of his death he was Emeritus Professor of Surgery.

Dr. Roberts was elected president of the Kentucky State Medical Association for 1914. He was president of the Southern Surgical Association in 1916. Through his long career Dr. Roberts was connected with SS. Mary and Elizabeth Hospital and was chief surgeon for the Louisville and Nashville Railway for 40 years.

Dr. Roberts had the distinction of being the first surgeon to operate successfully for a stab wound in the abdomen; although it had been suggested a number of years previous by Gross it remained for W. O. Roberts to boldly open the abdomen and suture the intestine. This was done in the late seventies.

Dr. Roberts was a wholesome and jovial surgeon of the old school. He was a friend of many young men in the profession.

Dr. Roberts married Miss Marie Yandell, the daughter of his chief. He left a son, Dr. David Yandell Roberts, to carry on his tradition after his death, April 1, 1921.

WILLIAM CHRISTOPHER DUGAN

Professor of Surgery.

William Christopher Dugan, the eldest son of Mordecai Boone and Catherine Skillman Dugan, was born January 3, 1858, near Sirocco, Meade County, Kentucky. He received his education at the public schools in that county and at a private school conducted by General Perry, a veteran of the Civil War, where he prepared to enter United States Military Academy, having been nominated as alternate. The principal however passed and, as there was no further possibility of his securing an appointment, he decided to take up the study of medicine. He entered the Medical Department of the University of Louisville and graduated in 1881, being the salutatorian of that class. His post graduate work was taken at the Bellevue Hospital and at the College of Physicians and Surgeons in New York.

On his return to Kentucky, he practiced for a short time in Breckinridge County and was then appointed in 1883 as First Assistant Physician under Dr. H. K. Pusey, Superintendent, at the Central State Hospital for the Insane at Lakeland, Kentucky, which position he held until the latter part of 1887.

He was married to Elizabeth Dayton Haight of Louisville, Kentucky, on January 20, 1887. In the fall of 1887 he started practicing in Louisville, Kentucky, and shortly thereafter began to limit his practice to surgery.

In the early 90's he was appointed instructor in anatomy at the Hospital College of Medicine, and in a few years became Professor of Surgery, which position he held for some years. About 1900 he accepted an appointment on the faculty of the Louisville Medical College, where he held the Chair of Clinical Surgery. In 1908 the Hospital College of Medicine and the Louisville Medical College combined, and he was appointed Professor of Surgery. After the consolidation of all the medical schools in Louisville in 1909, he became one of the professors of surgery, which position he held until his retirement from practice in 1919.

Dr. Dugan always retained his interest in the Central State Hospital and served as one of the commissioners for a term previous to the formation of the Board of Control.

He did the first appendectomy in this state, if not in the South, it being performed on one of the inmates at the Central State Hospital some time in the 80's. During the last few years of his practice, he did a considerable amount of brain surgery.

Due to bad health, he retired in 1916, purchasing a farm in Shelby County, but the World's War required him to return to Louisville to practice and also to serve on the district draft board as Surgical Consultant. He desired and would probably have gone to France in one of the Base Hospitals had the war lasted longer. As soon as the war was over he carried out his intention of permanently retiring from practice.

He suffered a cerebral hemorrhage on March 17, 1935, while at St. Petersburg, Florida, but recovered sufficiently to be able to get around. He died suddenly on August 1, 1936, in Shelby County and was buried on August 3 at the Cave Hill Cemetery in Louisville, Kentucky.

H. HORACE GRANT

Professor of Surgery.

Henry Horace Grant (1853-1921), a native of Kentucky, graduated at the Jefferson Medical College in 1878 and entered practice at New Castle, Ky., coming to Louisville two years later. Dr. Grant taught anatomy in the Kentucky School of Medicine for 10 years, becoming professor of surgery in the Hospital Medical College in 1895, continuing in this position until the merging of the schools in 1908, from which time until his death in 1921 he was professor of surgery in the University School of Medicine and professor of Oral Surgery in the Louisville College of Dentistry. Dr. Grant invented a number of instruments which are now in wide use, among which was the use of the gimlets held in position by clamps for the reduction of fractures of the long bones.

He was a frequent contributor to surgical journals, one of the editors of the Louisville Monthly Journal of Medicine and Surgery, and the author of Principles of Surgery and Diseases of the Jaw, published in 1902. He was a fellow of the American College of Surgeons, American Medical and Southern Surgical Association, and president of the Mississippi Valley Medical Association.

Dr. Grant was surgeon to the Louisville City Hospital, Gray Street Presbyterian Infirmary, Deaconess Hospital and Norton Memorial Infirmary.

Joseph Nathaniel McCormack
Professor of Hygiene.

Dr. J. N. McCormack was born in Nelson County, Kentucky, November 9, 1847 and has been denominated the father of Health in Kentucky.

He was educated in the private schools of Marion County, Kentucky. Dr. McCormack graduated from the Ohio Miami Medical College in 1870; and University of Louisville, 1873. He was married to Miss Corinne Crenshaw in 1871. Located for the practice of Medicine in Bowling Green, Kentucky, forming a partnership with Dr. Lemuel Porter. It was during this time that an epidemic of yellow fever occurred in Bowling Green which was cared for with the aid of the Sisters of St. Joseph's Convent, Bowling Green.

In 1881 Dr. McCormack sailed for Europe studying with Dr. Joseph Lister at which time Lister was advocating aseptic surgery. He returned in 1882 to Bowling Green for the practice of medicine and surgery. It was during 1883 that Dr. McCormack was made Secretary of the State Board of Health, if indeed at that date it could be worthy of the name. He was the guiding hand in persuading the Legislature of the state to pass the Medical Practice Act, thereby freeing the state of many charlatans. Dr. McCormack was a born organizer and due to his relentless effort in behalf of the American Medical Association, the many states and counties of the United States were more solidly welded together for the advancement of medicine. Dr. McCormack saw the State Board of Health grow from infancy to adult life under his watchful guidance.

As Chairman of the Committee on Organization of the American Medical Association, Dr. McCormack delivered his address, "The New Gospel of Health and Long Life," in almost every county in the United States. The basic notes of his address have been published together with a few of the press notices and editorials and some personal letters, showing how far these addresses and the influence he exerted along with them reached and changed public sentiment toward the medical profession and in favor of more effective public health organization. It is of interest that more than half of the State Health Officers in this country came into the public health profession under his inspiration. He was the organizer and first President of the Conference of State and Provincial Health Authorities of North America, and no other one man's influence has been greater in improving health conditions and lowering the unnecessarily high sick and death rate in these United States.

In his early life, Dr. McCormack did much surgery and was one of the early men in bringing evidence to light of Dr. Francis Polin, of Springfield, Kentucky, as the first man in the state to perform a Caesarian section. Dr. McCormack did one of the early colon resections reported in the surgical literature of the state. He served as Professor of Hygiene in the University with great distinction due to his intimate knowledge of the sanitary conditions in the state. It was a joy of his life that he live to see his son, Dr. Arthur Thomas McCormack, follow in his foot-steps and project the family tradition. He passed away May 5, 1922.

EARLY OCCUPANTS OF THE CHAIR OF THEORY AND PRACTICE OF MEDICINE, UNIVERSITY OF LOUISVILLE, SCHOOL OF MEDINCINE*

Emmet Field Horine

Associate Professor of Medicine, University of Louisville, School of Medicine.

A review of the occupants of the Chair of the Theory and Practice of Medicine in the University of Louisville, School of Medicine, reveals names of international as well as national reputation. The first third of the nineteenth century had witnessed the beginning of that marvelous advance in medical knowledge which has since increased with such incredible rapidity. The Renaissance brought light to the medicine of the dark ages, but the nineteenth century added immeasurably to the brilliance of that light. The Louisville Medical Institute, opening as it did in 1837, has assisted in the rapid dissemination of the newer medical knowledge acquired during the epochal scientific accomplishments of the nineteenth century.

Lunsford P. Yandell (Sr.), the first Dean of our School of Medicine, in an address before the Medical Society of Tennessee aptly summarized our debt to the work of our predecessors: "We do not profess to be giants in medicine, but standing as we do upon the shoulders of these giants of a former time, we suspect that we may be able to see farther and more clearly than they."

John Esten Cooke (1837-1844)

The first Professor of the Theory and Practice of Medicine was John Esten Cooke who taught with candor, earnestness, and simplicity. Dissatisfied with the teaching of Cullen, Brown, Rush, and others, he evolved a system of his own which he expounded in a most convincing manner.

John Esten Cooke was born in Boston, Mass., on March 2, 1783, while his parents were there on a visit. His father, Dr. Stephen Cooke, was a Virginia physician and surgeon in the American Revolution. Stephen Cooke was captured by the British and held a prisoner in Bermuda where he met Catherine Esten, a talented young English woman. Despite opposition on the part of her family he married her and resided on the island of Bermuda until 1791 when he returned to Virginia, locating in Alexandria.

John Esten was the eldest of eight children. His early education was carefully superintended by his mother and he became especially interested in English and Latin. Expressing a desire to enter medicine, his father offered him every encouragement and sent him to the University of Pennsylvania where he received his medical degree in 1805. Of his fellow students at this time he later became associated in teaching with three, namely, Benjamin W. Dudley, Daniel Drake and William Hall Richardson.

John Esten Cooke

Following his graduation he located in Warrenton, Virginia, where he practiced until 1821 when he moved to Winchester, Virginia. He was quite successful in Warrenton and still more so in Winchester. While in Winchester he published an article on autumnal fever which provoked much discussion because of the energetic treatment advised and which contained the nucleus of his theory of the origin of disease. Even prior to the publication of this essay he had begun the preparation of his "Treatise of Pathology and Therapeutics" which was to contain an elaborate statement of his theory.

In 1827, largely as a result of the reputation gained from his article on autumnal fever he was called to fill the chair of the Theory and Practice of Medicine in Transylvania University made vacant by the resignation of Daniel Drake. Moving to Lexington he now entered upon the most congenial period during his active career. Mingling with an aggressive and stimulating faculty, having access to the largest medical library west of the Alleghenies, greeted by enthusiastic students and practicing among the most cultured, he occupied an enviable position. His home life was also especially pleasant and in a great measure he instructed his own children.

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*This is the first installment of a history of the Department of Medicine with biographical sketches.

The first two volumes of his "Treatise of Pathology and Therapeutics" were issued in 1828. However, a third volume which he had planned never appeared. In this treatise which reveals much knowledge of the medicine of his day, he carefully elaborates his theory of the universal origin of disease. He mentions many remote causes of disease and concludes that exposure to cold and to March miasmata are the two most frequently acting. He divided the remote causes into predisposing and exciting ones but stated that "the same cause is however sometimes predisposing, sometimes exciting, and sometimes both." By much logic of the *post hoc* variety and by reference to many cases, he proved to his own satisfaction that all disease must have a common origin and always produce certain bodily disturbances beginning with weakened heart action and followed by an accumulation of blood in the vena cava with disturbed function of various organs. He says: "Accumulation of blood in the cava, and in its branches in the head, stomach, liver, kidneys, produces therefore a disordered state of the functions of those parts at the same time; and the effects or symptoms thus produced variously combined, sometimes one and sometimes another being most prominent, constitute most of the diseases to which man is liable."

With a pathology so simple, it followed that treatment was not complicated. His management of every case was based on the following rules: "In order to cure any disease, that is, to remove the effects, it is obviously necessary to remove all the causes that may still be in operation. Hence it is necessary to have in view the following objects:

I. To remove the remote causes which may still be operating on the heart, weakening its action;

II. To excite and support the action of the heart;

III. To reduce the quantity of blood accumulated in the venous cavity, in consequence of the weakened action of the heart.

IV. To reduce the action of the heart, produced by the press of blood from the venous cavity, if it exist."

He advised careful search for any of the remote causes of disease and their removal. The importance of rest and relaxation, proper exercise but avoidance of excessive fatigue were emphasized.

In order to accomplish his second object, treatment depended on whether weakened heart action was suddenly produced or whether it occurred periodically or was constantly present. In the first instance, warm drinks, warm applications to the surface of the body and emetics were advised. With weakened heart action recurring periodically or being constantly present, resort to cathartics was considered essential.

His third object being to lessen the quantity of blood in the venous cavity he used cathartics, especially calomel, quite freely and at times resorted to bleeding. By giving cathartics he hoped to "evacuate the venous cavity through the biliary ducts." During treatment the stools were carefully watched and if their color became first black, then green and finally yellow, the treatment was considered efficacious. Calomel was his chief reliance and he stated he would have used it "to the exclusion of all other cathartics but for one evil consequence of its free use, ptyalism." Despite his fear of its producing salivation, he usually administered it in doses ranging from ten to sixty grains and, at times, even in four drachm amounts repeated as deemed necessary to secure proper discharges!

When "free, yet consistent evacuations from the liver" were desired over long periods, pills containing two grains each of calomel, rhubarb and aloes were advised. Generally from two to four such pills were given each night for months at a time! These pills, the famous "Cooke's Pills," enjoyed wide popularity.

His fourth object being to reduce the action of the heart, if it existed, was effected by bleeding, by purging and by cold applications.

Cooke was said to have been a poor and halting lecturer yet he presented his subject so logically and earnestly that his pupils followed him with great interest. Favorably known and due to his position, wielding the weight of authority, he exerted a wide influence throughout the Mississippi Valley.

Among his many activities, he was co-editor, with Dr. Charles Wilkins Short, of the "Transylvania Journal of Medicine and the Associate Sciences" from its inception in 1828 to 1832. Beside the essay on autumnal fever previously mentioned and his book, he contributed more than twenty articles to this Journal. They were all well and logically written, bearing the impress of thorough study.

He continued teaching in Transylvania University until 1837 when he, with Lunsford P. Yandell (Sr.), followed Charles Caldwell to Louisville. With advances in medical thought, Cooke's theory rapidly became antiquated and met with persistent opposition. Daniel Drake, who came to the Louisville Medical Institute in September, 1839, as Professor of Clinical Medicine and Pathological Anatomy, held views largely at variance with those of Cooke whose theories could not survive attacks from all sides. At the close of the 1843-44 session, because of open complaints concerning his teachings, Cooke voluntarily resigned and was given a pension of two thousand dollars a year for three years. Retiring to a farm above Louisville, he spent the remainder of his life amid a very congenial family circle. After a brief illness, death occurred from pneumonia on October 19, 1853.

Daniel Drake (1839-1849 and 1850-1852)

Following Cooke's resignation in 1844, Daniel Drake was chosen as his successor with the title of Professor of Pathology and Practice of Medicine.

Though born amid surroundings of direst poverty, this remarkable man possessed a massive intellect which, combined with tireless energy, placed him in the front rank of American physicians. Largely self-taught, having the power of accurate and detailed observation, decidedly original in his concepts, he added much to the medical knowledge of his day.

Daniel Drake was the second child of Elizabeth (Shotwell) and Isaac Drake, being born in Essex County, New Jersey, on October 20, 1785. When Daniel was two and a half years of age the family moved to Washington, Ky., reaching this place with a capital of one dollar. His father, in order to earn enough money to buy a farm, occupied himself as a teamster for a short period. The family finally settled at Mayslick, Ky., on an original tract of thirty-eight acres. A rough log cabin was erected in which Daniel lived until his fifteenth year. During all these years they lived in constant dread of an attack by Indians, though through some strange Providence, they escaped. An extremely interesting record of this period has been left by Drake in his "Pioneer Life of Kentucky," a volume of 263 pages.

With a very scanty preliminary education Drake, when fifteen years of age, began the study of medicine with Dr. William Goforth, of Cincinnati. He was the first student of medicine in Cincinnati, and after four years of apprenticeship Goforth gave him (August 1, 1805) a "diploma" which read as follows: "I do certify that Mr. Daniel Drake has pursued under my direction, for four years, the Study of Physic, Surgery and Midwifery. From his good Abilities and marked Attention to the Prosecution of his studies, I am fully convinced, that he is well qualified to practice in those Branches." Drake at this time not quite twenty years of age had already been practicing in partnership with Dr. Goforth and he continued to do so until November, 1805, when he decided to take a course of lectures at the University of Pennsylvania. Returning in April, 1806, he practiced for a year at his Kentucky home, Mayslick, when Goforth succeeded in persuading him to return to Cincinnati.

Drake soon acquired a large practice and in 1807 married Miss Harriet Sisson, niece of Col. Jared Mansfield, Surveyor-General of the United States. His married life was extremely happy. Drake speaks of her as "the sweetest and most affectionate of wives."

In 1810 Drake published an interesting booklet concerning the topography, climate and diseases of Cincinnati. This was the forerunner of a larger book issued five years later entitled "Natural and Statistical View or Picture of Cincinnati and the Miami Country." This book almost immediately gained renown for its author, both in the east and even abroad.

November, 1815, again finds him in Philadelphia pursuing his second course of lectures in the University of Pennsylvania. He received his degree in April, 1816, and resumed his practice in Cincinnati in May.

In 1817, Benjamin W. Dudley, the great lithotomist, offered Drake the chair of Materia Medica in Transylvania University, Lexington, Ky. This offer was accepted and he thus became a member of the first active faculty of Transylvania, the first medical school west of the Alleghenies. Though quite successful in this undertaking Drake resigned at the end of the session and returned to Cincinnati.

Drake now inaugurated plans for the establishment of a medical school in Cincinnati. Finally after many disappointments the Medical College of Ohio opened on November 1, 1820, with a class of twenty-four students, of whom seven were graduated on April 4, 1821. This was the second medical school established in the West. At the end of the second session, on account of dissension in the faculty, Drake, the founder, was expelled! Because of popular demand he was reinstated the following week, but immediately resigned.

Transylvania again offered him a chair and he accepted, returning to Lexington in 1823. Here he taught for three sessions and became Dean of the Faculty. His restless spirit and love for Cincinnati again caused him to resign and resume his practice there.

Realizing the need for a medical journal to serve the western physicians he founded *The Western Medical and Physical Journal*, the first issue making its appearance in April, 1827. This publication appeared as a monthly journal during the first year of its existence and was edited by Drake and Guy W. Wright. With the beginning of the second year the journal was issued as a quarterly, its name being changed to *The Western Journal of the Medical and Physical Sciences*," and Drake assumed sole editorship. He adopted as its motto: "E Sylvis Nuncius." The rules which he suggested should be observed in the preparation of papers are as applicable today as they were a century ago. He states that: "The first essential is truth. Everything that is published in a journal of medical science, should, as far as possible, be divested of error; for it may all, sooner or later, influence the treatment of the sick, whose lives might be jeopardized, in consequence of perversions or suppressions of the truth. The next great requisite is perspicuity: that what the writer has observed and thought, may be readily and clearly comprehended. The next is conciseness; which many readers would, in reality, place at the head of the column of good qualities: And it cannot be denied, that they would have much reason on their side; for the quantity that is published, in the journals, and detached works, of the present age, is really enough to deter the timid and the indolent, from all reading. Originality, is another important property, which should never be wanting. Mere learning, and laborious rumination of that which has been masticated by others, will neither advance the interests of the profession, nor satisfy readers of good sense. Finally, those who write for medical journals should not consider the minor rules of composition beneath their attention. If advanced in years and reputation, their example will be authoritative, and should, therefore, be a good one. If young, they should seize every occasion to improve themselves in the art of writing. Indeed, no member of the profession, either high or low, should consider himself at liberty to disregard the laws of orthography, etymology, syntax, and collocation in anything which he presumes to address to his brethren. Lastly, in mercy to editors and compositors, he should write (or procure to be written) in an unaffected and legible hand: without which, he has, in fact, no guaranty that the printed will be a correct copy of his written communication."

By this time Drake's reputation was a national one and patients from considerable distances often consulted him. In 1830 he was offered and accepted the chair of Medicine at Jefferson Medical College. Though enthusiastically received he remained only one session and again returned to Cincinnati where he now hoped to establish another medical college. "Miami University, Medical Department," 1831. The trustees of the Medical College of Ohio, seeing that such competition at this time from Drake would ruin them, sought a compromise. This was finally arranged, Drake being able to largely dictate the terms. No sooner had one truce been declared than internal dissensions began, resulting in Drake resigning to devote his full time to editorial duties and to his large practice.

In 1832 Drake published a series of essays on medical education which had previously appeared in his journal. Garrison states that they were "the most important contributions ever made to the subject in this country." They are full, concise, with a clarity that is stimulating and they reveal the author as a deep and thorough student of medical education. He advocated more thorough preparatory training, a high standard of morality, longer sessions, enforcement of attendance at lectures, stricter examinations, a four-year interval between the commencement of study and graduation, and finally hospital training. For the purpose of securing more uniformity of college management, he later advocated an association of medical colleges.

In 1835 Drake succeeded in establishing "The Medical Department of the Cincinnati College" with an unusually strong faculty. Associated with him were Samuel D. Gross, Joseph N. McDowell, Horatio B. Jameson, Landon C. Rives, James B. Rogers, John P. Harrison, John L. Riddell, and later Williard Parker. The school attracted, during its four years of existence, nearly four hundred pupils. Without endowment and without aid, either from the city or the State, it was unable to continue.

In 1839 Drake was offered and accepted the chair of materia medica and pathology in what was then the Louisville Medical Institute (now University of Louisville, School of Medicine). Later he was made professor of clinical medicine and pathology. Apparently he was happy in Louisville as he remained first for ten years and returned later for two additional years. During this period he completed his monumental work in two volumes: "A Systematic Treatise, Historical, Etiological, and Practical on the Principal Diseases of the Interior Valley of North America, as they appear in the Caucasian, African, Indian, and Esquimaux Varieties of its Population." He had devoted more than thirty years to the preparation of this work having carried on an extensive correspondence with physicians of the West, and in addition having himself traveled many thousands of miles through the territory for the purpose of first hand observation. The first volume of 878 pages illustrated with nineteen plates, appeared in 1850, and the second one of 985 pages in 1854.

At the Cincinnati meeting of the American Medical Association in 1850, according to Juettner, Dr. Alfred Stille, in presenting a report on the latest medical publications, reviewed Drake's book very fully and alluded to it as an "achievement of which every doctor in America should be proud." Drake, who was present, received an ovation. Dr. Samuel D. Gross states that Drake might easily have been elected President of the American Medical Association at this time had not his innate modesty caused him to decline to let his name go before the Nominating Committee.

Because of the critical state of the Medical College of Ohio Drake was recalled in 1849 and triumphantly received by the institution he had founded. In this hour of victory he confessed an undying love for this erring child of his: "My heart still fondly turned to my first love, your alma mater. Her image, glowing in the warm and radiant tints of earlier life, was ever in my view. Transylvania had been reorganized in 1819, and included in its faculty Professor Dudley, whose surgical fame had already spread throughout the West, and that paragon of labor and perseverence, Professor Caldwell, now a veteran octogenarian. In the year after my separation from this school, I was recalled to that; but neither the eloquence of colleagues, nor the greeting of the largest classes, which the university ever enjoyed, could drive that beautiful image from my mind. After four sessions I resigned, and was subsequently called to Jefferson Medical College, Philadelphia; but the image mingled with my shadow; and when we reached the summit of the mountain, it bade me stop and gaze upon the silvery cloud which hung over the place where you are now assembled. Afterward, in the Medical Department of Cincinnati College, I lectured with men of power, to young men thristing for knowledge, but the image still hovered round me. I was then invited to Louisville, became a member of one of the ablest faculties ever embodied in the West, and saw the halls of the university rapidly filled. But when I looked on the faces of four hundred students, behold! the image was in their midst. While there I prosecuted an extensive course of personal inquiry into the causes and cure of the diseases of the interior valley of the continent, and in journeyings by day, and journeyings by night, on the water and on the land, while struggling through the matted rushes where the Mississippi mingles with the Gulf, or camping with the Indians and Canadian boatmen, under the pines and birches of Lake Superior, the image was still my faithful companion, and whispered sweet words of encouragement and hope. I bided my time; and, after twice doubling the period through which Jacob waited for his Rachel, the united voice of the trustees and professors has recalled me to the chair which I held in the beginning."

Exactly why he resigned will never be known, but at the end of the session, Drake tendered his resignation and returned to Louisville! In 1852 a return to his former chair in Cincinnati was earnestly solicited. He again acquiesced but it was destined that he should not teach again. He reached Cincinnati in October and shortly after his sixty-seventh birthday he became ill. He rather rapidly grew weaker, dying on November 6, 1852, of what was termed by the attending physicians, an arachnitis.

Gross, who was associated with him almost daily for fifteen years, pays him the following tribute: "As a colleague or companion no man could have been more agreeable, more considerate, or more honorable. Most of the difficulties and annoyances which beset him in his younger days are attributable to his connection with the Medical College of Ohio, and to the fact, everywhere potent, that he was greatly in advance of his collaborators in attempts to improve medical education and to build up a successful school, the idol for many years of his professional life. Drake had nothing bad in him, his faults were errors of judgment, not errors of the heart, which was always in the right place."

Dr. David W. Yandell said: "As a lecturer, Doctor Drake had few equals. He was never dull. His was an alert and masculine mind. His words were full of vitality. His manner was earnest and impressive. His eloquence was fervid."

Drake was always interested in education, secular as well as medical. He was a friend and advisor to William Holmes McGuffey, author of the famous series of readers. In many of these readers will be found extracts from the writings of Drake. A still closer bond between Drake and the McGuffeys was formed when Alexander, the youngest brother of William Holmes McGuffey, married Elizabeth, Drake's daughter.

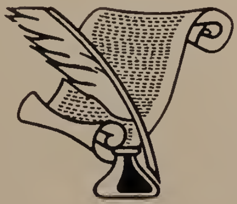
In this brief summary of the life of Drake I have not attempted to mention more than a few of his numerous contributions to medical literature. In the Library of the University of Louisville School of Medicine, and in my personal collection, I have had access to most of Drake's writings. His style was clear, concise, vigorous, and even at times poetic. The following statement is interesting in that it antedated, by about seventy years, a somewhat similar one made by Sir William Osler a few years ago: "The period of greatest usefulness, in the life of a physician, extends from 40 to 60, he is not a man of wisdom before the former, nor of energy, after the latter term."

One of the most beautifully descriptive essays of Drake is on "The Northern Lakes a Summer Residence for Invalids of the South." With a moving and artistic touch he pictures the lake region, methods and routes of travel, principal cities and scenic grandeur.

Many of his essays demonstrate his ability for close observation and detailed description, a good example being his article on the cholera epidemic as it appeared in Cincinnati in 1832. His study of "The Trembles" or Milk Sickness, read before the Medical Convention of Kentucky in 1841, while not the earliest, was a most thoughtful and detailed account of this local malady. A small book containing his two lectures delivered before the Cincinnati Medical Library Association in January, 1852, on "Early Physicians, Scenery and Society of Cincinnati," and on "Origin and Influence of Medical Periodical Literature," is an important historical record.

In beauty of style and clearness of presentation the writings of Drake remind me forcibly of those of that celebrated English physician, Sir Thomas Watson. While contemporaneous, Drake was older and possibly, because of a far more strenuous life in the "backwoods," developed a more incisive and forcible style than Watson. Each undoubtedly knew the other by reputation and yet neither could have had access to the writings of the other to such a degree as to have been influenced in the least.

As the years pass and as a true perspective of the first half of the nineteenth century in American Medicine becomes possible, the fame of Daniel Drake will assume larger proportions. An intensely patriotic citizen, an original thinker, and teacher as well as author and editor, a zealous and assiduous worker, a modest and unassuming genius with lofty ideals and laudable ambition, a True Physician was the immortal Daniel Drake.



MAPS OF DISTRIBUTION OF GRADUATES AT PRESENT TIME

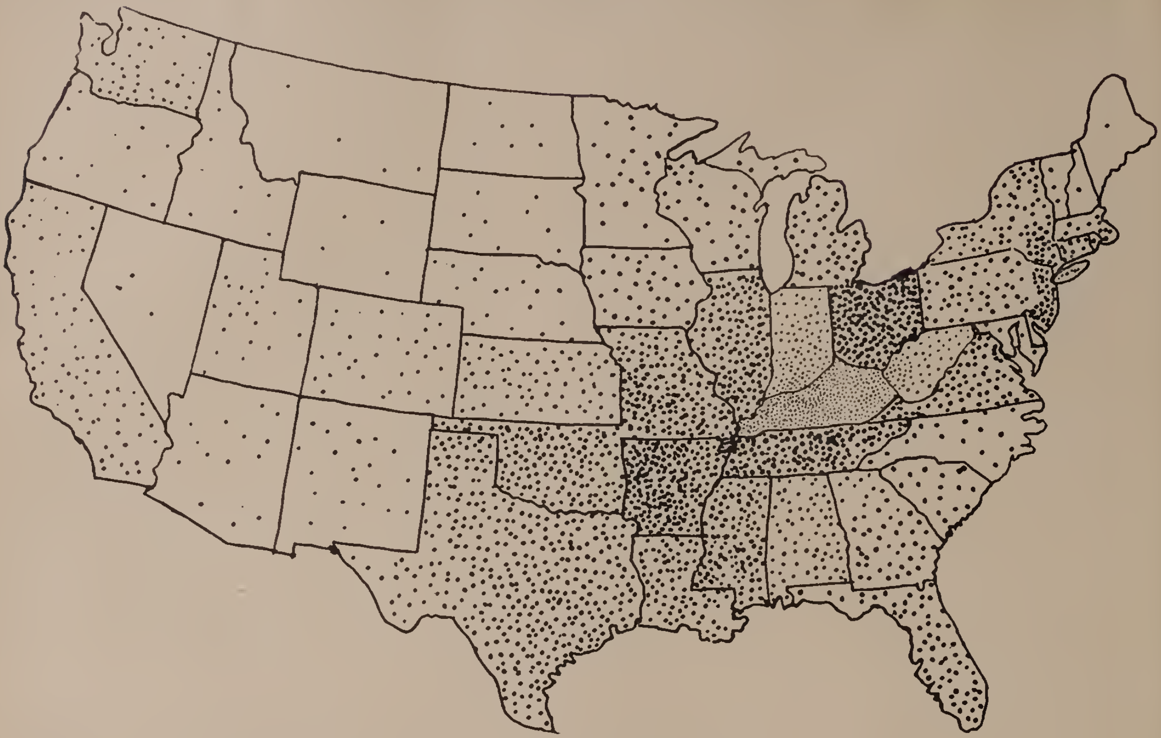


Figure I. Map of United States.

Each dot representing a living graduate of the University of Louisville School of Medicine with the exception of Kentucky, Indiana, and West Virginia, where one dot is equivalent to four graduates.

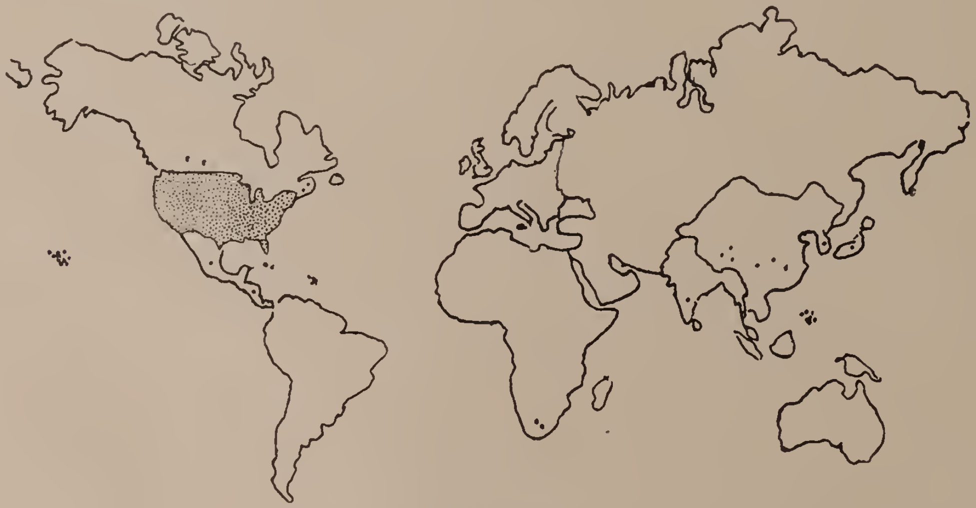


Figure II. Map of the World.

One dot representing a living graduate with the exception of United States, where one dot is equivalent to ten graduates.

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Editorial and Business Offices, 519 Tenth Street. Subscription Price, $5.00; Single Copy, 50 cents.
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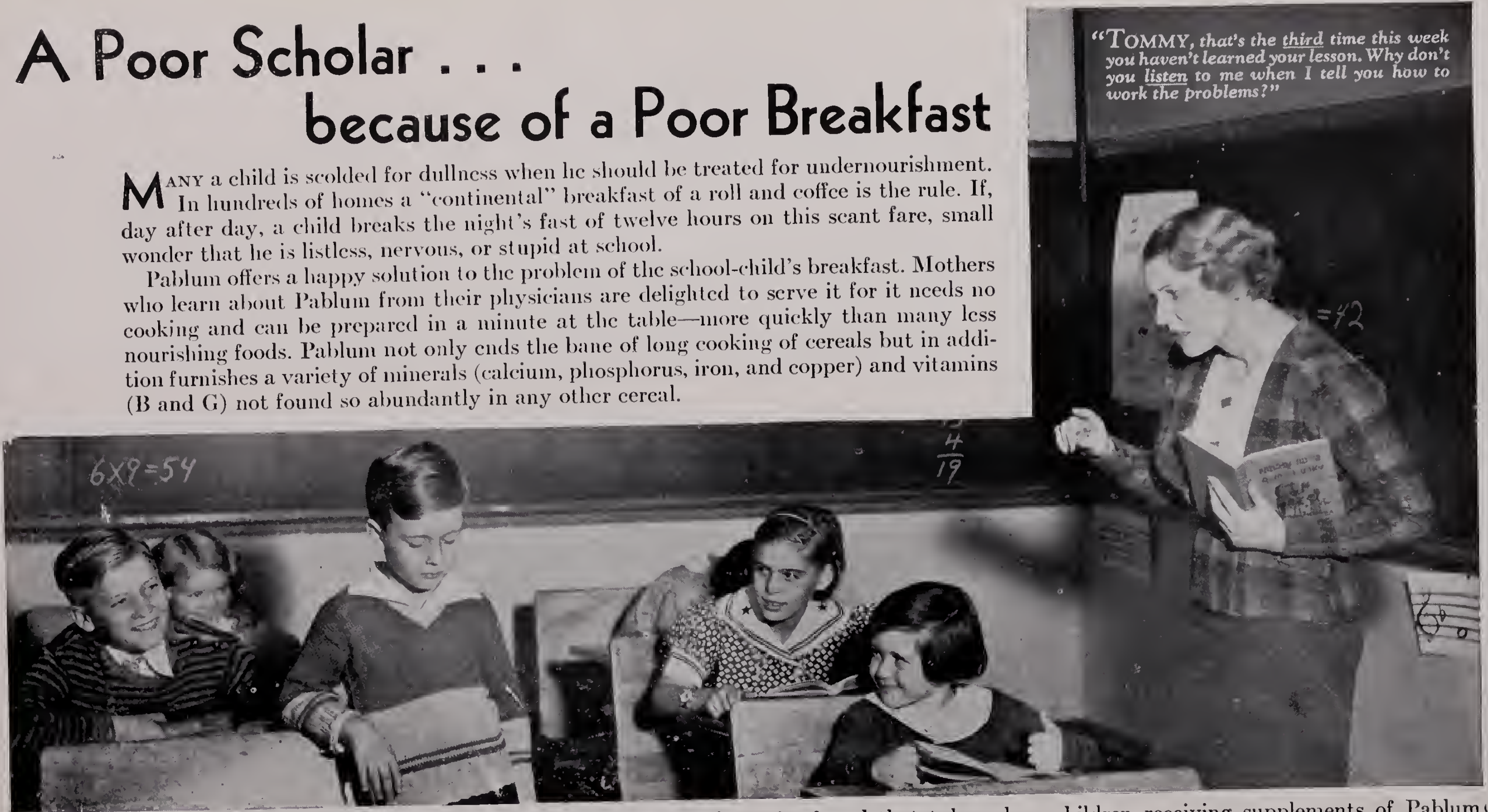
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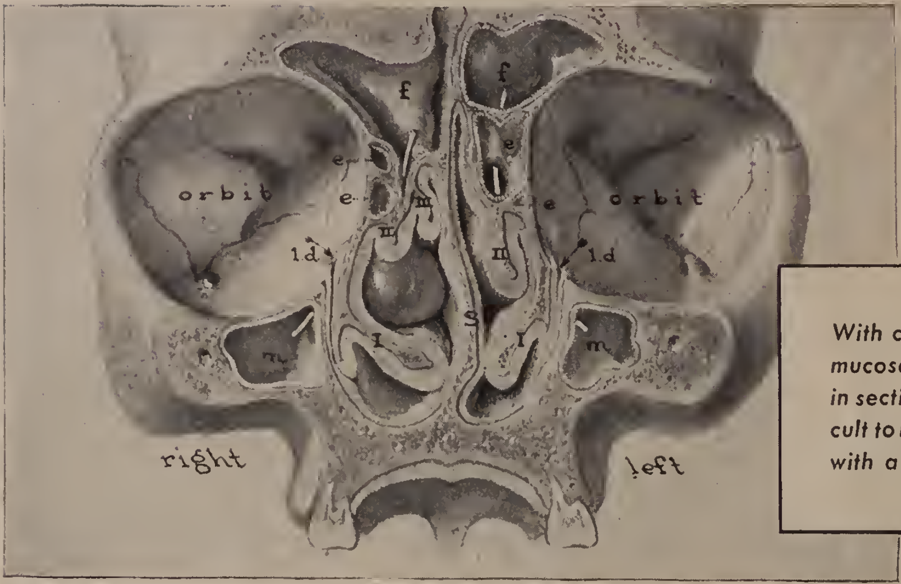

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II. VITAMIN D

● The quantity of vitamin D required by an individual is influenced by such factors as environment, race, age, mineral content of the diet, and possibly by the source of the vitamin. Deficiency is manifest in children as rickets and decreased calcium retention, and in adults by the less well defined condition known as osteomalacia.

The minimum daily intake which will prevent rickets in infants is probably between 135 and 400 International units of vitamin D as supplied by cod liver oil (1). The optimum prophylactic dose is probably in the neighborhood of 1000 International units (2). It is also interesting to note that the League of Nations Technical Commission has recommended a daily intake of 340 International units of vitamin D for pregnant and lactating women (3).

Irradiated pasteurized milk containing 135 International units per quart and irradiated evaporated milk of the same potency have been found equally effective in preventing rickets in infants. The pediatrician will be interested in the following summary taken from a recent review:

> "Such evidence as is available may be interpreted to show that cod liver oil, cod liver oil concentrate milk, and irradiated milk are of equal potency for the human being, unit for unit." (1-b).

Other than the above recommendation for vitamin D intake during pregnancy and lactation (3), little definite information is available upon which to establish minimum vitamin D requirements of the human after infancy (1), yet while sunlight produces the anti-rachitic factor, most common foods are known to be deficient with respect to vitamin D (4). However, certain foods such as eggs, butter, liver and sea foods do supply this vitamin. The importance of sea foods, especially canned salmon, as carriers of vitamin D has been definitely established. A recent report on the vitamin D content of different varieties of canned salmon gave a value of 1.9 International units per gram for the least potent brand and 6 or more units per gram for several other brands (5).

From a consideration of the vitamin D values of salmon oil, the oil content of canned salmon and the quantity of canned salmon consumed annually in this country, it has been concluded that there is more vitamin D in the canned salmon sold in this country than in the cod liver oil used for both human and animal feeding (6).

Although neither the minimal nor optimal requirements of individuals of different ages are definitely known, the values of evaporated milk fortified with vitamin D and of canned sea foods as sources of this important vitamin, are well established.

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(1) a. 1937. J. Am. Med. Assn. 108, 206
b. 1936. Ibid. 106, 2150
(2) 1936. J. Am. Diet. Assn. 11, 503
(3) 1936. League of Nations Report on Physiological Bases of Nutrition, League of Nations Publication Department, Geneva.
(4) 1935. J. Am. Diet. Assn. 11, 119
(5) 1935. J. Home Econ. 27, 658
(6) 1931. Ind. Eng. Chem. 23, 1066

This is the twenty-third in a series of monthly articles, which will summarize, for your convenience, the conclusions about canned foods which authorities in nutritional research have reached. We want to make this series valuable to you, and so we ask your help. Will you tell us on a post card addressed to the American Can Company, New York, N. Y., what phases of canned foods knowledge are of greatest interest to you? Your suggestions will determine the subject matter of future articles.

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Those would be natural and understandable reactions for any mother. But unfortunately, they would tend only to make matters worse.

When a child is "different" or "difficult," the most sensible thing to do is to get the help of your doctor. And the reason is that the underlying cause, while occasionally psychological, is usually *physical*.

For instance, a child can be slow and awkward at childhood games, because anemia is robbing her of energy. A child can appear backward because a glandular disorder is causing sluggishness, because faulty hearing prevents her from catching questions, or because faulty eyesight prevents her from reading correctly. A child can be sulky or ill-tempered, not because it is her nature to be so, but because some physical derangement is *making* her act that way.

The tragedies these disorders heap upon little heads are very real tragedies. But even more serious is their possible influence on the child's future. The "laughed-at" child so often becomes the crushed and morose adolescent. And the morose adolescent frequently becomes an embittered man or woman in an unfriendly world.

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CALENDAR OF COUNTY SOCIETY MEETINGS

COUNTY	SECRETARY	RESIDENCE	DATE
Adair	N. A. Mercer	Columbia	April 7
Allen	A. O. Miller	Petroleum	April 28
Anderson	J. B. Lyen	Lawrenceburg	April 5
Ballard	F. H. Russell	Wickliffe	
Barren	Paul S. York	Glasgow	April 21
Bath	H. S. Gilmore	Owingsville	April 12
Bell	R. F. Porter	Middlesboro	April 9
Boone	R. E. Ryle	Walton	April 21
Bourbon	W. B. Hopkins	Paris	April 15
Boyd	C. B. Daniels	Ashland	April 6
Boyle	P. C. Sanders	Danville	April 20
Bracken	J. M. Stevenson	Brooksville	April 5
Breathitt	Frank K. Sewell	Jackson	April 20
Breckinridge	J. E. Kincheloe	Hardinsburg	
Bullitt	S. H. Ridgeway	Shepherdsville	April —
Butler	G. E. Embry	Morgantown	April 7
Caldwell	W. L. Cash	Princeton	April 6
Calloway	Hugh L. Houston	Murray	April 1
Campbell-Kenton	C. A. Morris	Covington	April 1-15
Carlisle	J. F. Dunn	Arlington	April 6
Carroll	J. M. Ryan	Carrollton	April 13
Carter	W. S. Hawn	Grayson	April 13
Casey	William J. Sweeney	Liberty	April 22
Christian	M. A. Gilmore	Hopkinsville	April 20
Clark	R. E. Strode	Winchester	April 16
Clay	J. L. Anderson	Manchester	April 12
Clinton	S. F. Stephenson	Albany	April 17
Crittenden	C. G. Moreland	Marion	April 12
Cumberland	W. F. Owsley	Burkesville	April 7
Daviess	W. H. Parker	Owensboro	April 13-27
Elliott	R. Eugene Wehr	Sandy Hook	
Estill	Tracy Wallace	Irvine	April 14
Fayette	John Harvey	Lexington	April 13
Fleming	C. W. Christine	Flemingsburg	April 14
Floyd	J. G. Archer	Prestonsburg	April 28
Franklin	Grace R. Snyder	Frankfort	April 1
Fulton	M. W. Haws	Fulton	April 14
Gallatin	J. M. Stallard	Sparta	April 15
Garrard	J. E. Edwards	Lancaster	April 15
Grant	C. A. Eckler	Dry Ridge	April 21
Graves	H. H. Hunt	Mayfield	April 6
Grayson			April —
Green	S. J. Simmons	Greensburg	April [illegible]
Greenup			April 9
Hancock	F. M. Griffin	Hawesville	April 5
Hardin	D. E. McClure	Elizabethtown	April 8
Harlan	C. M. Blanton	Harlan	April 17
Harrison	W. B. Moore	Cynthiana	April 5
Hart	S. F. Richardson	Munfordsville	April 6
Henderson	Walter O'Nan	Henderson	April 12-26
Henry	Owen Carroll	New Castle	April 26
Hickman	Charles Hunt	Clinton	April [illegible]
Hopkins	David L. Salmon	Madisonville	April 1
Jackson			
Jefferson	Arthur T. Hurst	Louisville	April 5-19
Jessamine	J. A. Van Arsdall	Nicholasville	April 22
Johnson	P. B. Hall	Paintsville	April 10
Knott	M. F. Kelley	Hindman	April 24
Knox	T. R. Davis	Barbourville	April 25
Larue	D. W. Gaddie	Hodgenville	April 6
Laurel	Oscar D. Brock	London	April 14
Lawrence	W. C. Gose	Louisa	April 19
Lee	W. D. McCollum	Beattyville	April 10
Leslie	John H. Kooser, Act. Sec'y	Hyden	April ---
Letcher	J. E. Crawford	Whitesburg	April 27
Lewis	J. D. Liles	Vanceburg	April 19
Lincoln	Lewis J. Jones	Hustonville	April 16
Livingston	William C. Davis	Smithland	
Logan	Walter Bryne, Jr.	Russellville	April —
Lyon	H. H. Woodson	Eddyville	April 6
McCracken	Leon Higdon	Paducah	April 28
McCreary	R. M. Smith	Stearns	April 5
McLean			April 8
Madison	H. G. Wells	Richmond	April 15

COUNTY	SECRETARY	RESIDENCE	DATE
Marion	W. A. Risteen	Lebanon	April 20
Marshall	S. L. Henson	Benton	April 21
Mason	O. M. Goodloe	Maysville	April 14
Meade	A. A. Baxter	Brandenburg	April 22
Menifee	E. T. Riley	Frenchburg	April
Mercer	J. Tom Price	Harrodsburg	April 13
Metcalfe	E. S. Dunham	Edmonton	April
Monroe	George E. Bushong	Tompknisville	April
Montgomery	D. H. Bush	Mount Sterling	April 13
Morgan	W. H. Wheeler, Act. Sec'y.	Betsy Lane	April
Muhlenberg	J. H. Harralson	Central City	April 13
Nelson	R. H. Greenwell	Bardstown	April
Nicholas	T. P. Scott	Carlisle	April 19
Ohio	Oscar Allen	McHenry	April 7
Oldham	S. J. Smock	LaGrange	April 6
Owen	K. S. McBee	Owenton	April 1
Owsley	John R. Aker	Booneville	April 5
Pendloton	W. A. McKenney	Falmouth	April 14
Perry	J. M. Ray	Allais	April 12
Pike	F. H. Hodges	Pikeville	April 5
Powell	I. W. Johnson	Stanton	April 5
Pulaski	M. C. Spradlin	Somerset	April 8
Robertson			April
Rockcastle	Lee Chestnut	Mount Vernon	April 8
Rowan	A. W. Adkins	Morehead	April 12
Russell	J. B. Scholl	Jabez	April 12
Scott	L. L. Cull	Georgetown	April 1
Shelby	W. P. Hughes	Shelbyville	April 15
Simpson	N. C. Witt	Franklin	April 13
Spencer	No Organization		
Taylor	M. M. Hall	Campbellsville	April 8
Todd	B. E. Boone, Jr.	Elkton	April 7
Trigg	H. L. Wallace	Cadiz	April 23
Trimble	J. J. Gerkins	Bedford	April
Union	D. C. Donan	Morganfield	April 28
Warren	Hal Neel	Bowling Green	April 14
Washington	J. H. Hopper	Willisburg	April 21
Wayne			April
Webster	C. M. Smith	Dixon	April 30
Whitley	C. A. Moss	Williamsburg	April
Wolfe	G. M. Center	Campton	April 5
Woodford	Charles F. Voigt	Midway	April 1

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★ *Proc. Soc. Exp. Biol. and Med., 1934, 32, 241-245*
Laryngoscope, Feb. 1935, Vol. XLV, No. 2, 149-154
N. Y. State Jour. Med., June 1935, Vol. 35, No. 11
Arch. Otolaryngology, Mar. 1936, Vol. 23, No. 3
Laryngoscope, Jan. 1937, Vol. XLVII, No. 1, 58-60

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★Reprint of papers from
N. Y. State Jour. Med. 1935, 35—No. 11, 590; Laryngoscope 1935 XLV, 149-154. Proc. Soc. Exp. Biol. and Med., 1934, 32, 241-245. Laryngoscope, 1937, XLVII, 58-60. ☐

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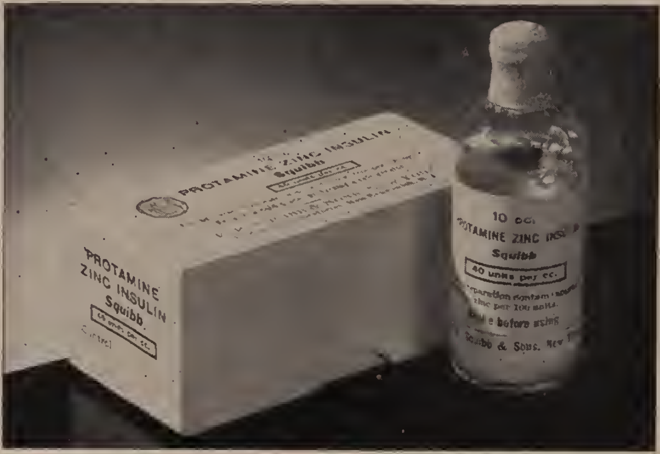

Hagedorn, Jensen, Krarup and Wodstrup-Nielsen of Copenhagen reported, in 1935, that by addition of protamine to aqueous solutions of the active anti-diabetic principle they had succeeded in obtaining a modified, precipitated preparation having an effect much more prolonged than that of unmodified Insulin. Later it was demonstrated, at the University of Toronto, that by adding a small amount of zinc to a preparation of Insulin and protamine, both the stability of the preparation and the duration of its blood-sugar-lowering effect could be increased. These findings have led to the evolution of a product now designated Protamine Zinc Insulin. This product has been given extensive clinical trial and signifies a distinct advance in treatment of diabetes mellitus.

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4—For most patients receiving the product, one injection a day is adequate.

5—Lessening of fluctuations in blood-sugar levels has a favorable effect upon patients' sense of well-being.

PROTAMINE ZINC INSULIN, *Squibb* complies with the rigid specifications of the Insulin Committee, University of Toronto, under whose control it is manufactured and supplied. It is available in 10-cc. vials. When this preparation is brought into uniform suspension, each cc. contains 40 units of Insulin together with protamine and approximately 0.08 mg. of zinc.

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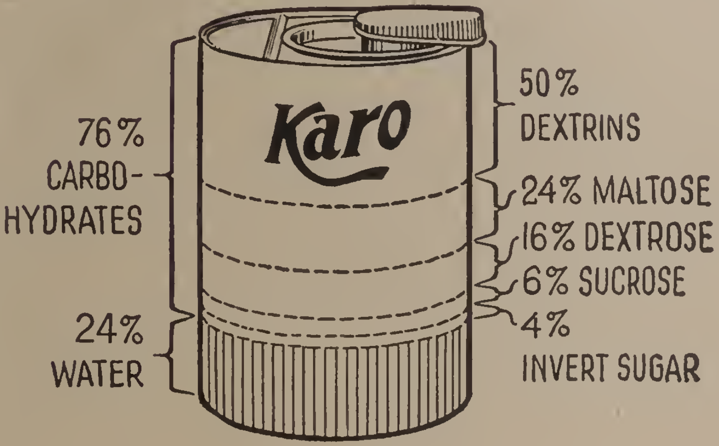

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Protamine, Zinc & Iletin (Insulin, Lilly) has been developed as a result of co-operation with Dr. H. C. Hagedorn and his associates of Copenhagen, Denmark, and the University of Toronto.

Eli Lilly and Company markets this product in packages containing one 10-cc. vial. After careful shaking, each cubic centimeter contains 40 units of Iletin (Insulin, Lilly) together with protamine and approximately 0.08 mg. of zinc.

Literature will be forwarded to physicians upon request.

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INDIANAPOLIS, INDIANA, U. S. A.

KENTUCKY MEDICAL JOURNAL

BEING THE JOURNAL OF THE KENTUCKY STATE MEDICAL ASSOCIATION

Published Under the Auspices of the Council

VOL. 35, No. 4 BOWLING GREEN, KY. APRIL, 1937

FINEST HEALTH JOB IN FLOOD AREA

Under the above caption the Times-Journal, Bowling Green, recently carried the following editorial, which will, no doubt, be read with interest by physicians throughout the State. The medical profession is charged by law with responsibility for public health in Kentucky. This responsibility it has accepted and consistently discharged. Commendation of public health work in the State is, therefore, commendation of the medical profession as such.

The Times-Journal says:

It has been a well known fact for years that Kentucky's Health Department is recognized as a model which has been taken as a pattern to follow in the reorganization of practically all the States in our Union.

Kentucky's Health Department has been tried in many crucial times when epidemics either threatened or were raging and has never been found wanting, but has always measured up fully to its important responsibility.

Never before, however, has our State Health Department been faced with such widespread disaster and been put to such a severe test and been called upon to handle such a herculean task as has confronted it for the past several weeks.

The entire organization was routed from its own quarters and its various departments forced to function in different sections of the flood area, Health Commissioner A. T. McCormack and the efficient heads of the various departments and their assistants worked night and day to prevent widespread epidemics which at times it seemed would sweep over the flooded areas in spite of every effort that could be put forth.

However, after many long days of efficient and tireless effort a brighter day is dawning and it seems that Kentucky's Health Department has again proved to the world that its model organization has shown itself capable of protecting the health and lives of the people of our State under conditions that test the ability of the ablest medical minds obtainable.

The Federal Flood Investigation named by the President and headed by Relief Administrator Harry Hopkins, has just completed a survey of the State flood area. While in Louisville Mr. Hopkins made public the following statement:

"No one should under estimate the situation in Kentucky. It is the most disastrous flood in the state's history. I can't say enough in praise of the city administration and health authorities here who have done a stupendous job well in preventing an epidemic. *It was one of the finest health jobs in the whole flood area.* There are over 600,000 people in Kentucky affected by this flood and 175,000 refugees are being cared for in forty-six counties by the Red Cross. The problem now is to get refugees home and safeguard their health. This is in the Red Cross' hands."

Typhoid clinics were held, night and day, throughout the flooded area during the flood period and practically every individual in this area was immunized. The Laboratory of the State Department of Health, under the direction of Lillian H. South, M. D., distributed enough typhoid vaccine to immunize two hundred and fifty thousand people. All of this vaccine was made and tested in the State Department of Health Laboratory.

OUR ADVERTISERS

The Journal is dependent on the income from advertisements to meet all of its expenses. The first question asked by the prospective advertiser is: "Do the doctors read the advertising pages of the Journal and do they patronize the advertisers?" The second is: "Do you urge the members of the Association to give consideration to those who help bear the financial burden of publishing the Journal?"

Advertisements in the Journal are carefully scrutinized as to their dependability and usefulness and everything in them is guaranteed by the Association. If any of the advertisements carry coupons, the clipping and mailing of these involve, as a rule, the return of something which, we believe, will be compensative of the time so consumed. Every member of this Association is requested to go carefully over the advertising pages of this issue, write to the respective firms in whose products they may be interested and commend them for the advertisements they are giving to the Association.

THE AMERICAN PUBLIC HEALTH ASSOCIATION'S SIXTY-SIXTH ANNUAL MEETING

The American Public Health Association announces that its 66th annual meeting will be held in New York City, October 5-8, 1937. A large eastern membership will receive this information with satisfaction. Not since 1921 has the Association met in the world's greatest city. The 65th annual meeting took place in New Orleans in October. It attracted an attendance of 1650 health authorities, representing 45 states, Canada, Cuba, Mexico and nine other foreign countries. The officers of the Association are reminding themselves of this registration in a state where the membership numbers less than 100 and asking themselves what the registration will be in New York City where the membership counts up to nearly 500 within the city limits alone.

An overnight's ride will enable more than one-half of the Association's 5000 members to attend the convention.

The National Organization for Public Health Nursing will meet with the American Public Health Association in 1937 for the first time. This large and important organization is expected to add another thousand to the registration lists.

The following related societies will also meet with the Association as usual:

The American Association of School Physicians.

International Society of Medical Health Officers.

Conference of State Sanitary Engineers.

Conference of State Laboratory Directors.

Association of Women in Public Health

Delta Omega.

Dr. Reginald M. Atwater is the Executive Secretary of the Association, and the headquarters offices are at 50 West 50th St., New York. Dr. Thomas Parran, Surgeon General, United States Public Health Service is the President, and Dr. A. T. McCormack, State Health Commissioner of Kentucky, is the President-Elect.

ORAL TYPHOID VACCINE

During the flood the attention of the State Health Department was called to claims made by the manufacturers of certain oral typhoid vaccines that were not considered proved at that time. The firm which manufactured this product, the Eli Lilly & Company, conducts one of the great scientific research laboratories of the country and they feel that they really have a meritorious product that will be of great value.

The State Health Department proposes to cooperate with them in their research work in this field, but they did not feel that the flood was the time to experiment and, therefore, prohibited the use of the product in Kentucky. We want our physicians and pharmacists to know that this was no reflection on the firm which offered the products. They cooperated with the profession in every possible way in helping to accomplish its purpose to reduce and prevent unnecessary illness as a result of the disaster. The State Health Department is not yet in a position to approve the use of any oral vaccine for typhoid fever, but of course, has an open mind in regard to any scientific claim and will be glad to receive evidence in regard to such a product.

WHAT KENTUCKY DOCTORS ARE DOING

Dr. R. D. Higgins, Ashland, Kentucky, Director of the Boyd County Health Department contributed an article to the National Negro Health News, which is published in Washington in cooperation with the United States Public Health Service, State, County and City Health Departments, and various voluntary health and civic organizations. This Journal has a wide circulation and the object is to improve the health conditions of the Negro.

Dr. John Walker Moore, dean and professor of medicine, received the University's 1936 Award of Merit. Among points mentioned in the citation were the following: "significant contribution through research on cardiovascular functions; establishment a decade ago of the student unit system of clinical instruction; effective and stimulating."

Doctor Moore has been associated with the University since 1915. He was made professor of medicine in 1923 and dean in 1928. He was graduated from the University of Pennsylvania School of Medicine in 1912.

Dr. Charles Caldwell, who was graduated from the University of Pennsylvania in 1795, was the founder of the University of Louisville. The first class was graduated in 1838, when the degree of doctor of medicine was conferred upon twenty-four candidates.

QUARTERLY SUPPLEMENT POSTPONED

Due to inconveniences and results of the Flood, the publication of the Woman's Auxiliary Section, supplement to the Kentucky Medical Journal, is not possible for the April Quarter. The issue will, instead, appear with the May Journal, it is hoped.

OFFICIAL ANNOUNCEMENT

PEDIATRIC POST GRADUATE INSTRUCTION

April 28-June 30, 1937

A Postgraduate Course of Instruction in Diseases of Children will be held at the Children's Free Hospital in Louisville, beginning Wednesday, April 28, 1937 and continuing each Wednesday for ten weeks from 9 A. M. to 1 P. M.

One hour will be spent each week in a discussion by the Staff of all interested cases in the Hospital. All of the newer methods of treatment by transfusions, lumbar and cisterna puncture, hypodermoclysis, peritoneal injection, etc., will be demonstrated on patients. Lectures will be given on many of the puzzling problems in diagnosis and treatment, but such other questions as may be suggested will also be discussed.

Further inquiries should be sent to Dr. Philip F. Barbour, Heyburn Building, Louisville.

A nominal charge of $5.00 will be made for the entire course. A certificate will be issued if desired.

The program will be given as follows:

April 28

9-10 Cries of Babies
Philip F. Barbour
10-11 Weekly Conference
Staff
11-12 Mental Hygiene and Behavior Problems
James W. Bruce
12- 1 Care of New Born and Premature
T. Cook Smith

May 5

9-10 Juvenile Tuberculosis
Harry Andrews
10-11 Weekly Conference
Staff
11-12 Whooping Cough and Scarlet Fever
James Pitchett
12- 1 Diphtheria, Measles, etc.
J. J. Glaboff

May 12

9-10 Growth and Development
W. W. Nicholson
10-11 Weekly Conference
Staff
11-12 Asthma and Eczema
Lee Palmer
12- 1 Deficiency Diseases
J. W. Bruce

May 19

9-10 Appendicitis
Philip F. Barbour
10-11 Weekly Conference
Staff
11-12 Respiratory Infections
A. A. Shaper
12- 1 Pleurisy and Empyema
J. H. Pritchett

May 26

9-10 Leukemia and Anemia
J. W. Bruce
10-11 Weekly Conference
Staff
11-12 Immunization and Preventive Medicine
Lee Palmer
12- 1 Interpretation of X-rays in Children
Harry Andrews

June 2

9-10 Transfusion and Parenteral Fluids
W. W. Nicholson
10-11 Weekly Conference
Staff
11-12 Diagnosis and Treatment of Meningitis
T. Cook Smith
12- 1 Influence of Good Prenatal Care on the Health of the Child
Annie Veech

June 9

9-10 Convulsions
Philip F. Barbour
10-11 Weekly Conference
Staff
11-12 Diarrhea and Dysentery
J. J. Glaboff
12- 1 G. C. Vaginitis
Margaret Limper

June 16

9-10 Routine Health Examination
J. W. Bruce
10-11 Weekly Conference
Staff
11-12 Emergencies in Childhood
J. H. Pritchett
12- 1 Poliomyelitis
W. W. Nicholson

June 23

9-10 Burns
T. Cook Smith
10-11 Weekly Conference
Staff
11-12 Infant Feeding
Lee Palmer
12- 1 Laboratory Methods
Harry Andrews

June 30

9-10 Pyelitis and Nephritis
A. A. Shaper
10-11 Weekly Conference
11-12 Rheumatic Fever and Heart Disease
J. H. Pitchett
12- 1 Endocrine Disturbances
Philip F. Barbour

CHORIONEPITHELIOMA*

J. Hadley Caldwell, M. D., F. A. C. S

Newport.

Chorionepithelioma as the name implies is a malignant tumor originating from the chorionic epithelium. It was first described by Chiari in 1877. He called it carcinoma of uterus. In 1893, Sanger called this neoplasm Sarcoma uteri deciduocellulare; but it remained for Marchand in 1895, to recognize the epithelial nature as well as the placental origin of this tumor and apply the correct name.

Etiology: There is still a great deal of controversy among the leading authorities concerning the cause of these growths and their exact histological structure. The writer will not attempt to explain all the different theories and opinions that have been advanced, except to state that it is generally conceded that this disease, in the great majority of cases, occurs sometime during the child bearing period of women following shortly after labor at term, abortion or expulsion of an hydatidiform mole or in a few very rare cases, it has been found in very young girls and elderly women; also it has been reported developing in teritoma of testis, but it generally develops in the uterus of multiparous women shortly after expulsion of hydatidiform mole.

Macroscopic Pathology: The gross appearance of uterine chorionepithelioma is fairly characteristic. The uterus in early cases is only slightly enlarged, somewhat soft and boggy, the peritoneum covering uterus, bladder and broad ligaments is very pale and if there are no metastases present or extension of growth into broad ligaments by continuity, the whole uterus is freely movable. In more advanced cases the tumor mass in uterine cavity that is attached to endometrium and infiltrating deep into the muscular wall may be palpated when the abdomen is opened by grasping the uterus with one hand.

The tumors resemble either wall thrombi or interstitial nodules with black thrombosed areas, the base of which may partly slough away. Deep seated ulcers then develop or more rarely, a diffuse fungating corporeal type of growth. With all these variations, a distinctly haemorrhagic appearance, with infiltration of the uterine wall, is noted in all. The tumor area is friable. The growth may penetrate the uterine wall rupturing through the peritoneal coat into the peritoneal cavity.

Ectopic chorionepithelioma shows a tumor having no direct anatomical connection with a previous placental site. The uterus may be perfectly normal or may show such hyperplasia of the mucosa and musculature as usually accompanies tubal pregnancy. The site of the chorionepithelioma may be in the vagina, broad ligaments or intraperitoneally. The mass resembles a haematoma or collection of thrombi, tumor cells being usually found only in the periphery, the main mass consisting of coagulum. The ectopic chorionepithelioma probably arises from a primary uterine tumor that has regressed or been expelled with a placenta or mole, or from the transplanted cells of a possibly normal intrauterine placenta.

Chorionepithelioma of the Fallopian tube is of very infrequent occurrence. The appearance and symptoms of these cases are similar to those of tubal pregnancy, but recurrence after operation is the rule.

Microscopic: Marchand first conclusively showed that the growth originated from the tropoblasts and that Langhans cells and syncytium encountered in the normal villus also appeared in the malignant tumors. The transition from the normal villus to hydatid mole is gradual. A further step towards malignancy is shown in chorionepithelioma. The invasive character of the growth is always present.

Marchand has divided chorionepithelioma into two types; the typical and atypical. The typical chorionepithelioma resembles the tropoblasts of early pregnancy. The clearly defined polyginal Langhan cells with well marked cell outline and large nucleus appear mixed in with multinuclear groups of dark wandering cells of syncytium. The growth contains numerous blood sinuses, some of which harbor tumor cells, as well as hemorrhagic and necrotic areas. No multiplication of villi takes place.

In the typical chorionepithelioma there is a marked tendency for the cell masses to arrange themselves in alveolar groups, to some degree resembling proliferation of carcinoma. Outgrowths of these cells invade the musculature for a considerable distance. Surrounding the haemorrhagic tumor, there is an area of fibrin and haemorrhage, and still more peripheral there is a marked reaction zone.

Characteristic of this type of growth is the fact that no new formation of connective tissue, or of blood vessels takes place. The blood vessels of the host are frequently penetrated and intravascular extension is not uncommon. Even a so-called typical chorionepithelioma may vary greatly in the number of Langhan cells and syncytium, the one or the other form predominating, in a given portion, of the same as well as in different tumors. The Langhan cells vary more in size, shape and staining reaction of the nucleus, than normal Langhan cells. Mitosis may be present. The atypical form generally shows a more diffuse invasion of maternal structures by large mono or poly-nuclear, deeply staining cells, which may suggest sarcoma. The cells may be discrete or form syncytial groups and masses. Langhan cells are much less numerous than in the typical variety and may be so few as to escape observation, unless diligent search is made. As in the typical form coagulation necrosis, fibrin and a surrounding reaction zone are found.

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*Read before the Kentucky State Medical Association at Paducah, October 5, 6, 7, 8, 1936.

From a microscopic pathological view there are a number of sub-divisions between the typical and the atypical types of this neoplasm; hence the controversy among the pathologists with reference to the diagnosis and prognosis in a given case.

After an exhaustive study, Ewing has attempted to base prognosis upon histology. In the humble opinion of the writer this seems logical. Ewing believes that the clinical course can be correlated with the histological structure in such a fashion as to enable the pathologist to give a definite prognosis. To the writer this seems to be asking too much of the pathologist; but I do believe that a relative prognosis may be given. Ewing takes a stand rather different from that of other pathologists such as Marchand, Schlagenhaufer, Aschoff, Frank, Hirschmann and Cristoffette, who maintain that histological differentiation cannot be utilized in making a prognosis.

In a review of the literature Wimpfheimer found 85 cases of chorionepithelioma that were classified into 4 types; typical chorionepithelioma with an approximately equal number of Langhans and syncytal cells: 49 cases classified by histology and treatment as follows:

From these rather scant data we conclude that the consensus of opinion that the histological criteria cannot be relied upon is fully justified with the exception that where villi are present radical operation offers excellent hope of cure, and that syncytial tumors are fully as malignant as the typical varieties. Out of the 85 cases 51 per cent or 60 per cent died and 34 or 40 per cent recovered. The writer believes this or any other disease which has 60 per cent mortality is deserving of more thorough study and careful treatment.

Metastases: Metastatic extension may occur earlier in this than in any other form of tumor. Dissemination takes place through the blood stream and metastases have been found in almost every organ of the body. However, the lungs and vagina are the two sites of election.

Symptoms: The most important symptom of chorionepithelioma is hemorrhage. The bleeding may first appear in the early months of pregnancy, shortly after the termination of pregnancy, whether this be normal or hydatidiform, or after a period of latency existing for months or sometimes years. The bleeding is generally slight in the beginning and often repeated until profuse uterine haemorrhages take place, in fact, it may be a terminal symptom. It sometimes simulates ruptured ectopic pregnancy i. e. when the uterus ruptures and there is profuse intraperitoneal haemorrhage. The uterus may be found enlarged, boggy and resembling sub-involution. Subperitoneal nodules may be felt and enlarged cystic ovaries may likewise be noted. There is generally anemia, slight or moderate elevation of temperature and a feeling of intense lassitude is complained of.

A brief summary of a typical case is repeated or constant uterine haemorrhage, anemia with a low degree of sepsis, enlargement of uterus, metastases, cachexia and death.

Differential Diagnosis: Chorionepithe-

		No. Cases	Well	Died	Total
Typical chorionepithelioma	Unoperated	18	1	17	
	Operated	31	18	13	49
Typical chorionepithelioma with villi	Unoperated	5	2	3	
	Operated	5	5	0	10
Atypical Langhans cells Predominating	Unoperated	2	0	2	
	Operated	4	3	1	6
Atypical Syncythium Cells Predominating	Unoperated	12	2	10	
	Operated	8	3	5	20

lioma must be differentiated from ordinary non-malignant retained products of conception. Here the specimens removed with a sharp curet or a sponge forceps are rather characteristic. Such tumors as carcinoma, sarcoma and necrotic submucous fibroids may have to be excluded by microscopic section.

The most characteristic symptoms of chorionepithelioma is the the repeated findings of small particles of chorionic tissue in serosanguinous fluid that is flowing from an uterus that has been thoroughly emptied. If this symptom occurs shortly after expulsion of any hydatidiform mole it is very suggestive of chorionepithelioma. Major importance must now be accorded to the pregnancy urine test. The writer has used the Friedman modification of the Ascheim-Zondek test with much satisfaction.

In a given case where the above symptoms are very definite and the Friedman test is very positive with the use of only 10 per cent of the urine usually used, one is justified in making a diagnosis of chorionepithelioma.

The incidence of chorionepithelioma given by different authors varies greatly. With diligent search of the literature in 1919, Vineberg found 533 well authenticated cases. It is stated by Polloson and Violet that 45 per cent follow hydatidiform mole. The writer has personally encountered three cases all following the expulsion of hydatidiform mole and after review of the literature finds that few have personally treated more cases; hence; the difference of opinion.

Prognosis: The virulence of this disease varies tremendously. In many instances the fulminating nature can be compared only to that of melanoma. In other cases, spontaneous regression appears to have occurred, but in the opinion of the writer this seems to be a mistaken diagnosis.

Treatment: Early diagnosis is most essential. In fact, it is of the utmost importance. Where chorionepithelioma is strongly suspected the writer would very emphatically advise against the use of the curet. Even in the hand of an expert, it is dangerous when used in such cases. As soon as a positive diagnosis is made, a complete abdominal panhysterectomy is indicated. In early cases where the ovaries are normal one ovary may be left to continue the ovarion function without danger of metastases. In young women where a positive diagnosis of chorionepithelioma is made and there is an element of doubt, the patient should be prepared for radical operation; but when the abdomen is opened, the surgeon, with the situation in perfect control, may do an hysterotomy safely, thus being absolutely sure of the diagnosis. If there should be an error in diagnosis the uterus is closed and no harm is done. If the diagnosis is confirmed by the hysterotomy a panhysterectomy is performed at once. In all such cases where the diagnosis is made early and the growth is confined to the endometrium and the musculature of the uterus, the prognosis is good, if the proper operation and treatment is carried out. In inoperable cases radiotherapy, using radium and X-ray, has been used with favorable results by Keene, Lackner, Wintz and others; but Hofbauer has but little, if any, faith in radiotherapy. The following cases were encountered by the writer.

Case 1. Referred by Dr. J. Rolf of Covington, Mrs. F. N. age 39, married, mother of five children, youngest age 5, no miscarriages, no previous illness. Last regular menstruation October 23, 1934. December 4, 1934, menstruated one day. December 18, profuse menstruation lasting four days, then dribbled until January 3, 1935. Thick blood clots passed, then again irregular bleeding. I first examined her January 9, 1935, and found uterus in normal position, somewhat enlarged with all the symptoms and signs of a normal pregnancy that had been threatening to miscarry. I advised rest in bed and morphine as necessary. She remained in bed a few days, then was up part time with slight uterine haemorrhage at times until February 24, when she passed an hydatidiform mole the size of a grapefruit. Dr. Rolf kept her in bed one week after this. Then she resumed some of her household duties but soon began to bleed again when she moved about and there was a continuous serous discharge with occasional small pieces of chorionic tissue found in this discharge. This continued with occasional moderate haemorrhage until March 24, 1935. I examined her again finding her somewhat pale and with a feeling of lassitude. Pelvic organs were normal except slight enlargement of uterus with indication of subinvolution as one would expect to find shortly after miscarriage. March 24, 1935, Friedman modification of Ascheim-Zondek pregnancy urine test was made using 12 and 6 C. C. of urine on successive days. The result was positive.

This test was repeated three days later using only 2 and 1 C. C. of urine and found to be just as positive as the first test. Patient entered St. Elizabeth Hospital in Covington, and three days after this second test a panhysterectomy was done, removing both tubes and ovaries and covering all raw surfaces with peritoneum as usual. The appendix was also removed as usual.

Clinical Findings: No adhesions, uterus, tubes and ovaries seemed about normal except uterus slightly enlarged and soft. The peritoneal covering of uterus, bladder and broad ligaments was very pale; all out of proportion to the moderate anaemia present. A chorionepithelioma the size of a large olive was found in the fundus attached to and infiltrating deep into posterior wall of uterus as can be observed in the accompanying photograph. Another Friedman test was made 12 days after operation and found negative. She made an uninterrupted recovery and left hospital two weeks after operation and has remained well with no signs of metastases up to the present writing 18 months after operation.

Case 2: Referred by my associate, Dr. J. E. Dawson, of Newport. Mrs. M. K. age 23, married three years, mother of one child, age 16 months, family history negative. No previous serious illness, normal menstrual history before first pregnancy, but irregular menstruation after birth of baby. Last menstruation October 2, 1935, continuous slight bleeding from November 8 to December 20, 1935, when she passed an hydatidiform mole which was accompanied by a very profuse haemorrhage. She was removed to the hospital at that time and remained there ten days. After this hemorrhage her red cell count was 1,900,000. She improved but continued to have serous watery discharge with the passage of small pieces of chorionic tissue at times until January 16, 1936, when a moderate uterine haemorrhage occurred. Another blood count was made January 22, 1936, which revealed 3,440,000 red cells and 11,880 white. She again entered Speers Hospital in Dayton, February 1, 1936. A Friedman modification of Ascheim-Zondek test was done February 6, 1936, using only 2 and 1 C. C. of urine on successive days. The result was very positive. She had a slight haemorrhage February 9, 1936. We operated February 10, 1936, doing a panhysterectomy, removing both tubes and left ovary, but not the right ovary as it seemed perfectly normal and the patient being young (23) the writer believes this was justifiable as he thinks there is no danger of metastases in this case. The appendix was also removed.

Clinical Findings: Normal appendix, no adhesions, tubes and ovaries appeared normal, uterus slightly enlarged, soft with a patulous external os, the peritoneum covering uterus, bladder and broad ligaments very pale, out of all proportion to the moderate anaemia present at that time. After the uterus was removed, on section, it revealed a chorionepithelioma attached to and filling the fundus, infiltrating deep into the uterine wall as may be observed in the accompanying photograph. Recovery uneventful. Another Friedman test was repeated February 26, 1936, just 16 days after operation, using 15 and 10 C. C. of urine on successive days. This test was negative. Patient left the hospital February 29, 1936, and has made a complete recovery, has gained fifteen pounds in weight and feels well. Another blood count was made April 16, 1936, about two months after the operation, which was as follows:

Red	5,300,000
White	9,750
Hb	70%
Poly	54%
Lymp	35%
Monocyte	3%
Eosinophiles	7%
Basophiles	1%

Case 3: This case was reported in the Cincinnati Lancet Clinic, March 28, 1914; but as it resembles the other two cases, I will review it briefly. This patient was referred to me by Dr. O. W. Brown, of Falmouth. Mrs. M. age 20, married one year, no children. One miscarriage at three months in June, 1913, and was curetted a few days later to remove pieces of retained placenta. Family history negative. Personal history, no previous illness, except she was neurotic and had attacks of hysteria. Last normal menstruation was October 20, 1913. Three or four weeks later she began to have all symptoms of pregnancy, with nausea and vomiting, amenorrhea, etc. She had several slight uterine haemorrhages previous to January 23, 1914, when she had a copious hemorrhage. She was then entered in Speers Hospital of Dayton, where I took charge of the case. Four days after entering the hospital, she passed an hydatidiform mole. She made an uneventful recovery and returned home ten days after passing the mole. After being home two days, she began bleeding again slightly, at intervals, until February 20, 1914. She again had a profuse haemorrhage and entered the hospital. A small mass was removed from inside the fundus of uterus with a small forceps. Dr. Woolley (then Professor of pathology, University of Cincinnati) made frozen section of this tumor and pronounced it a chorionepithelioma and advised immediate radical operation, which was done the next day, February 22, 1914. Both tubes, ovaries, the whole uterus and the appendix were removed. She made a rapid recovery and is living and well at present—twenty-two years after operation. No preg-

nancy urine tests were made, as it was not known at that time.

In conclusion, I wish to thank Dr. Alfred Glazer, pathologist at St. Elizabeth Hospital of Covington, for his cooperation and excellent pathological work on these cases; also to express my appreciation and thanks to Professor Hofbauer, professor of gynecology and Professor Richard Austin, professor of pathology at the Cincinnati University, for their cooperation and reading of these sections.

DISCUSSION

Irvin Abell, Louisville: Chorionepithelioma is unique in the field of tumors since it arises not from the tissues of the patient but from those of another individual, springing from the cells covering the chorionic villi. I had the pleasure and privilege of working in Marchand's laboratory through the spring semester of 1898. In a paper upon decidual growths (Ueber die decidualen Geschwulste) published in the German Journal of Obstetrics (Monatschriff fur Geburtshife) in 1895 he differentiated the syncytium from Langhan's layer in the tumors which were then termed deciduoma malignum. In 1898 he published the further result of his studies upon the source of these cells in the Berliner Klinische Wockenschrift under the title Malignant Chorionepithelioma (Maglignes Chorionepitheliom) which title from that time has been the generally accepted one. He made the distinction between the typical and atypical varieties but in so far as I remember made no suggestion as to a clinical difference in their malignant tendencies. Owing to his deep interest in the subject we naturally saw and heard much of chorionepithelioma in the laboratory and upon my return home I began to look for it, a search I have prosecuted through the following years with the net result of finding but two cases. The first was observed in 1906 in a primapara of 27 years of age who came under observation because of hemorrhage three weeks after a normal delivery. What was thought to be placental fragments were removed with the curette following which the bleeding ceased. The patient again came under observation at the end of six weeks with recurrence of bleeding accompanied by anemia and a temperature of 103. A second curettement was done removing a rather large quantity of cellular material which upon microscopic examination showed the Langhan's cells and syncytial tissue. Following a panhysterectomy she recovered and lived more than ten years. Theoretically curettage is a dangerous procedure in the presence of chorionepithelioma since both the Langhan's and syncytial cells are invasive in type and normally penetrate uterine-tissue. In its diagnosis the most important differentiation to be made is between it and infected incomplete abortion on the one hand and infected secundines following labor at term on the other. Pregnancy products are permanently removed by the curette while in chorionepithelioma the tumor masses rapidly reform with recurrent bleeding. My first patient died in the eleventh year following operation, the cause of death being reported by her family physician as pulmonary tuberculosis. This diagnosis may have been correct, but only an autopsy could have ruled out late pulmonary metastases. The second case was seen in 1932, occurring in a 41 year old mother of eleven children. When first seen a hydatidiform mole was found projecting from the cervix; this was removed and the uterine cavity cleansed with a gauze pledget held on sponge forceps followed by irrigation with 50 per cent alcohol. Microscopic examination showed nothing other than mole formation. She was cautioned about the possibility of chorionepithelioma and instructed to return in the event of further bleeding. This recurred in one month after which a panhysterectomy was done, the microscopic examination showing chorionepithelioma. So far she remains free of any evidence of recurrence. The high incidence of chorionepithelioma after mole pregnancy raises the question as to the best prophylactic treatment of the latter to prevent its occurrence. If the mole has attained appreciable size the cleansing of the uterus is best accomplished through an opening in its anterior surface after exposing it by an abdominal incision. Ocular inspection and digital palpation will not only insure thorough evacuation of all mole tissue but as well allow the detection of malignant change should it be present. In the event that the patient is approaching the natural limitation of fertility her safety will be enhanced by hysterectomy even though no malignancy can be demonstrated. I was especially interested in the essayist's remarks regarding the diagnostic value of the persistence of the anterior pituitary hormone in the urine. It is well to remember that while following a normal pregnancy the hormone can rarely be demonstrated for more than eight days. Aschheim has shown that after a mole pregnancy the reaction may be positive for two months without the presence of chorionepithelioma. The amount of the hormone present both in mole pregnancy and in chorionepithelioma is many times greater than in normal pregnancy and certainly its continued presence after any pregnancy should arouse suspicion of chorionepithelioma since it offers conclusive evidence of the presence of chorionic tissue. By the same token its presence or absence after operative or irradiation treatment of chorionepithelioma is of definite prognostic value. Among the "believe it or nots" of medicine is the occurrence of chorionepithelioma in the male; after believing for years that the tumor arose only as a pregnancy sequel, its demonstration in the male afforded a paradoxical curiosity. Its mode of origin is still uncertain but is regarded as evidence of a metaplastic change in an embryonic ectodermic testicular structure which under certain unrecognized conditions is capable of producing this variety of tumor. As in the female the tumor in the male gives rise to an enormous increase in the anterior pituitary hormone in the urine affording the possibility of a timely diagnosis. I had the pleasure of witnessing such a case this summer in Beth Israel Hospital of Boston. In this particular patient, a man in his early forties, the diagnosis was made from the biopsy of a metastatic tumor of the femur before the original lesion was discovered The primary nodule in the testicle has, in other cases, been reported of such small size as to be easily overlooked.

Louis Frank: Bland believes that it is highly probable that chorionic malignant diseases rarely, if ever, arise independent of hydatidiform mole though the latter may not be recognized or even suspected.

While the cause of hydatidiform mole and placental carcinoma is unknown, taken in connection with the excessive formation of corpora lutea in the ovary, some very interesting theories are advanced. These various conditions are necessarily related to one another and with the trophoblastic changes taking place in the uterus.

I would call your attention to the trophoblast as a normally invasive cell and that in every pregnancy it penetrates the uterine wall to a greater or less extent. We know that metastasis of placental villi is by no means infrequent and that chorionic villi may be found in distant organs especially the lungs. Schmorol has shown this to occur in 80 per cent of women during perfectly normal pregnancy. This may account for some of the causes of collapse, or sudden death during pregnancy or labor.

The capacity of trophoblastic cells to invade normally is not at all unlike cancer cells hence it is that mistakes may easily be made not only in such cases as mentioned above but also in the diagnosis of deciduoma malignum. Such errors may even at times be made in the microscopic study of normal placental remnants left in the uterus after abortion, labor, or currettments after incomplete abortions. We have seen one such error at full term, the small placental remnant, bleeding continually, being diagnosed chorion epithelioma.

Microscopically one should endeavor to distinguish the pure syncytial cell from the cells of Langhan's as the latter are the more malignant. When it comes to a study of moles there is commonly observed a marked overgrowth of trophoblastic cells so it becomes quite easy to make an error in diagnosis. It is this difficulty which has led Novak to believe that many of the cases of chorion epithelioma reported in the literature are really benign moles with abundant trophoblastic proliferation. In a study therefore of these growths in the uterus the amount and degree of invasion as well as proliferation should be considered in determining malignancy. Possibly these errors may be the explanation of some spontaneous cures yet even so, these growths do present features not possessed by malignant growths of other types. It is most remarkable, assuming correct diagnosis, that 10 per cent of these tumors run a favorable course with spontaneous cure or with cure after an incomplete operation. As has also been noted, in a considerable number of cases with metastasis no trace of the original tumor could be found. A further striking accompaniment of these tumors is the characteristic group of changes in the ovary which also occur in its benign prototype and may be induced in animals by injection of the hormone containing urine from the patient.

Exceeding interest attaches to the fact that not only in the normal placenta but also in the vesicles of the hydatidiform cysts do we find the anterior pituitary hormone but that it is also found in the blood and urine of these patients as also those with malignant chorions. Fels thinks this activity of the pituitary in these cases is a trophoblastic response. Upon the basis of these observations, the Zondek-Ascheim test for pregnancy should prove of great value in ascertaining whether or not complete removal of a mole has been obtained following currettage or other treatment just as it should enable us to determine whether or not any of the products of abortion have been retained. It is inestimable in the determination of complete removal of chorion epithelioma and in the diagnosis of recurrence of such tumors.

"Increase in the size of the pituitary is the rule, especially in the latter stages of pregnancy and may be so marked as to cause pressure on the optic chiasm with partial bilateral hemianopsia." (So visual disturbance at the end of pregnancy does not necessarily mean uremia). "The pronounced enlargement and coarsening of the features late in pregnancy is also most likely of putuitary origin."

Wagners case of benign adenoma of the pituitary would seem to indicate that a lesion of the pituitary might provoke the same changes in the ovary as choriomatous tumors do and similar changes in the mucous membrane of the uterus as are found in pregnancy. It would therefore seem that the anterior pituitary might be the direct cause not only of the ovarian changes in normal pregnancy but also of those in hydatidiform mole and chorion epithelioma.

J. B Lukins, Louisville: I think particular credit is due Dr. Caldwell in this case, in that he selected as his subject a condition so rare as chorionepithelioma and has investigated and treated and reported three cases in his own practice which have been successfully managed. Most men in the large experience of a lifetime see only very few cases. In addition to that, the mortality of chorionepithelioma, regardless of the plan of treatment, is very high. In some of the very best conducted clinics of the United States the mortality is given as high as 60 per cent. Out of 9,400 cases admitted to the Lying-In Hospital in Philadelphia in the obstetrical department there were only eight cases of hydatid mole. Out of these eight cases there were only two followed by chorionepithelioma, showing how very, very rare it is. In addition to being rare and in addition to having a high mortality, most of these cases are rapidly malignant. It is surprising, when you go to look into the literature of chorionepithelioma, how much talk there is about the benign nature of it. That was mentioned by Dr. Frank.

In observing these cases and in seeing them in consultation and in the literature from the best centers we must gain the impression and reach the conclusion that it is about the most malignant type of thing that we have to deal with. It not only metastasizes early, but it metastasizes rapidly, and therefore we are brought to the conclusion that early diagnosis is the only chance of saving these people, and that puts it back to the general practitioner.

The symptoms are an enlarged uterus, supposed to be pregnant, with repeated uterine hemorrhages. You don't know whether it is premature separation of the placenta, whether it is a regular abortion, presence of a small fibroid or a polyp, or any other of the conditions that we teach students in the school may cause uterine hemorrhage, but as mentioned by Dr. Frank, we have the most positive and the nicest way in any malignant condition of finding it. If we have an Aschheim-Zondek test made, as brought out by the essayist, and it is positive and this uterine bleeding continues and we continue to do the Aschheim-Zondek tests and they continue positive, we can be almost sure it is a case of chorionepithelioma.

With regard to treatment, that was correctly stated by Dr. Frank. It is too early to make any definite statement about radiation, but we all form beliefs if we have just one or two of these cases, and I certainly believe they should be operated at the earliest minute that the diagnosis can be made.

If the diagnosis has been positive from the Aschheim-Zondek or from the uterine scrapings and then we open the uterus, I do not believe any halfway measures will do; I believe that radical surgery should be done and every organ in the pelvis that is either infected or suspected should be removed.

If we do this and the diagnosis is made early, I do not see why our reports cannot come up almost to the measure of Dr. Caldwell's.

D. Y. Keith, Louisville: As radiotherapy has been referred to in this case I believe I can be of some benefit, with the permission of the essayist, if he will allow me to add a case report that I can give in detail. I did not have the opportunity to look it up before I left home. I have seen three of these cases, all three of them practically moribund when I saw them, and two of them died very quickly.

The most spectacular one was in a young girl twenty-two years of age who had an incomplete abortion, who had been curetted the third time when I saw her and was practically moribund. That was, I should say, around fourteen or fifteen years ago. She was given a dose of radium inside the uterus with the idea of controlling her hemorrhage and seeing if we could be of some benefit to her. She had been almost unconscious the night before; and had her legs wrapped with bandage, the foot of the table elevated, and saline given. It was in the days before transfusion was as popular as it is now. The following day we gave her a very small dose of radium and much to everybody's surprise she got almost complete relief in a very short while, and although it was insisted that she be operated upon, she refused and the girl is still living.

I shall be glad to look up her record and add to this report with the consent of the essayist.

Edward Speidel, Louisville: Speaking of the rarity of this condition, I admit that I have seen only one case of chorionepithelioma in forty-two years in my own practice. However. the condition that most frequently leads up to chorionepithelioma occurs in a surprising manner; it did especially in the early days of my medical experience when I was still a general practitioner. In the last year of my attendance at the old University (I was in the drug business at that time so all the doctors knew me rather well) the Professor of Medicine and the Professor of Obstetrics had a premature delivery on hand in a private house near my home and invited me to attend. Matters were going rather slowly and the Professor of Obstetrics and the Professor of Medicine got very tired and made up their minds to retire in an adjoining room. I was the goat and had to watch the patient. To show you how crude conditions were at that time, I was instructed to anoint I think my unwashed and of course my ungloved hand with lard out of a pail that was provided from the kitchen, and I was instructed to insert my hand into the vagina of this para 6 woman and do manual dilatation, and when I had succeeded in completing that, to call the slumbering professors. It required a great deal of manipulation to do the dilatation, and finally my hand entered the uterus and to my astonishment I could feel no fetus. Upon withdrawing my hand I found I had a handful of millet seed which I showed to the professors; of course you have made the diagnosis.

That was my first experience with hydatid mole, cystic degeneration of the chorionic villi. The professor under complete anesthesia did a manual removal, scooped out fully a quart of this millet seed material, and the patient in spite of all this manipulation, having only a low temperature, recovered in time.

Ten years later I had another strange experience. I was called in consequence of continuous bleeding to a young bride of my acquaintance, and to my embarrassment I found that the young lady, who had only been married three months, had apparently a pregnancy at least five months advanced. The uterus showed a five months advanced pregnancy. Persistent questioning eliciting the fact that there was no indiscretion in this case, I happened to notice the symptoms connected with the case, a sanguinous discharge without the presence of clots, and a uterus much larger than usual. I made the diagnosis, of course, of tentative nature, of hydatid cysts. It was a very difficult case and resisted instrumental dilatation. I finally had to resort to a vaginal cesarean section to scoop out the material inside the uterus, which was of a more serious variety of hydatid cyst, like a bunch of grapes. That material not only filled the uterus but infiltrated the muscle of the uterus. It had to be torn out of the uterus, and it comprised fully a quart jar full.

In spite of advice not to become pregnant again for quite a while, I delivered that woman two years later, a normal delivery, apparently with a normal placenta, but five days later a little nodule about the size of a hazelnut was discharged, which proved to be a chorionepithelioma.

We did not do any radical procedures for this disease (I am speaking now of about 1910, if you please) but I advised her against further pregnancies. This woman was so desirous of having children that she became mentally unbalanced. She disregarded my advice after a while and gave birth to more children and she is living at the present day, but I think the diagnosis of chorionepithelioma is correct in that case

J. Hadley Caldwell, (in closing): I desire to thank the Doctors for their discussion. I have learned something from their discussion. My reason for writing this paper and reporting these cases was that I believe it is not such a rare disease as we have formerly been taught. One of my colleagues on the hospital staff, Dr. Ryan, has recently had another case on which he operated in which the laboratory report was positive of chorionepithelioma.

I believe that if everyone is watching, the obstetrician particularly and more especially the general practitioner because the general practitioner sees almost all cases first, and is on the lookout for any of these peculiar conditions simulating pregnancy, we will probably pick up a case of chorionepithelioma occasionally.

The first case that I had was picked up that way, was referred by Dr. O. W. Brown.

According to the statistics given by some writers it is very rare. I should have seen possibly from 100,000 to 150,000 cases of pregnancy to have picked up three chorionepitheliomas. Of course I am not going to tell you I have seen that many cases of anything, but I believe that it is not as rare as it was formerly thought to be.

I have forgotten the name of the Professor of Gynecology at the University in Chicago who has written a book and said that in the twenty years that he had been head of that department there had never been a case of chorionepithelioma encountered. Of course that would show it is rare.

I have a case at the present time at St. Elizabeth's Hospital in Covington that I suspect of this very condition, but I have not had time as yet to prove whether it is nor not.

It took a good deal of courage for me to do a complete panhysterectomy on these last two cases in which I had never put an instrument inside the uterus, not even my finger. I removed the uterus, and when I removed the first one I said, "Maybe I have removed a normal uterus." After we finished the operation we cut the uterus open and saw the picture on the screen. We had the advantage of the Aschheim-Zondek test which we formerly did not have.

I know nothing about treatment with radium or X-ray. I only quoted what Professor Hofbrau told me in personal conversation. The three case I have had have not had any radium or X-ray treatment and they are all well at present. The one twenty-two years ago when we had no Aschheim-Zondek test is still living, because her doctor told me last night she was well and healthy. By having the Aschheim-Zondek test negative, I believe that, as Dr. Frank mentioned in his discussion, is a pretty fair proof that there is no growth present and there are no metastases.

Effects of Roentgen Therapy on Gliomas.—Deery studied a group of fifty gliomas to determine the effect of irradiation. Only cases were chosen in which both preradiation and postradiation specimens of the tumors were available. The preradiation specimen was obtained when the tumor was first attacked surgically and the postradiation specimen from a second operation or at necropsy.

THE MANAGEMENT OF EPIDEMIC CEREBRO-SPINAL MENINGITIS IN AN INDUSTRIAL COMMUNITY*

CARLISLE R. PETTY, M. D.,

Lynch.

In dealing with an epidemic of meningococcic meningitis in our industrial community of approximately ten thousand people, we were confronted by many problems in the control of the disease; these I should like to discuss along with the methods of treatment employed, believing them to be of general interest.

With our early cases a fourteen day quarantine period was enforced upon the family of the patient and all contacts. To our company police department goes the major portion of the credit for the success of this enforcement. A member of the police department, wearing a mask, would go to the home from which a meningitis case had been removed and taken to the hospital, where he obtained the name of every member of the family and of all contacts with the patient; this in many instances meant that all members of another household became contacts and were quarantined for a period of fourteen days. These names were then typed on a large sheet of paper and constituted a roll. The houses were then visited by the police every two hours during the day and twice during the night, calling the contacts out to answer the roll call to make sure that none left the premises under quarantine. We were somewhat proud of what we thought was a workable quarantine system, but notwithstanding its rigid enforcement, cases continued to occur, grouping themselves in a number of instances to houses in the immediate neighborhood of recent cases. It was then through cooperation with the Kentucky State Board of Health, and what wonderful cooperation it was, that we instituted a system of taking throat cultures from the nasopharynx of all contacts before releasing them from quarantine, and the period of quarantine extended from fourteen to twenty-one days, at the suggestion of the State Epidemiologist, F. W. Caudill. Out of a total of twelve hundred and fifteen throat cultures, planted on blood agar, a total of thirty-nine positive carriers was found.

With the finding of positive carriers of the disease, a new problem presented itself, where to isolate them and what treatment to use in clearing them up. We had a large unoccupied building with twenty rooms and a lobby, formerly used as a boarding house. This was taken over and equipped with hospital beds and put in charge of two graduate nurses for day and night duty, and regular nurses' charts kept on each carrier. Hychlorite, which is the trade name of a preparation of sodium hypochlorite, was diluted one part to seven in normal saline, and this solution in turn diluted one to thirty and used as a gargle every two hours. Along with this, the nose and throat were sprayed with a 25 per cent solution of argyrol every four hours.

All cases were served their meals in their rooms and when mingling together to read, play the radio, and otherwise amuse themselves in the lobby, all wore well fitting masks over nose and mouth to avoid reinfection from more recent arrivals. They were released from quarantine as carriers, after three negative throat cultures had been obtained. These were taken every third day from the nasopharynx with West Tubes, containing a sterile applicator. These tubes were used in obtaining throat cultures because the secretions of the mouth are bactericidal for the meningococci. The average time required to clear a carrier was eleven days. Incidentally, the place of carriers was spoken of as "The Hollywood Hotel." From our contact with the epidemic form of meningococcic meningitis, we are thoroughly convinced that the disease spreads by both contact with positive cases and by way of human carriers. Among a total of one hundred and eight cases treated by us, fifty-six cases were untraceable; thirty-one cases were traceable to human carriers and twenty-one to other cases of the disease. A total of eight cases was definitely traced to one carrier of the disease who, himself, was symptom free.

All public gatherings were banned but, acting upon the advice of Dr. McCormack and Dr. Caudill, our white and colored schools were kept open with surprisingly few cases occurring in the school ages. To understand something of our problem in controlling the spread of the disease it is necessary that you have a mental picture of the town. Lynch is located in a long valley between high mountain ranges, in fact the mountain sides were terraced to make streets and building lots for the houses. In this valley live approximately ten thousand people closely congested as to housing and having one large department store where most of the buying for the family is done and a common meeting place for residents from every section of the town. Because of crowded conditions in the main store and the drug store, we limited the number of people in the main store to thirty and the number to six at any one time in the drug store. A patrolman in uniform enforced these restrictions at both entrances. The same rule was enforced in the hospital waiting room, the post-office and hotel lobby. To enforce this, in many instances it was necessary that people stand in line to gain entrance, in which case they were kept ten feet apart to avoid the danger of interchanging nasopharyngeal secretions.

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*Read before the Kentucky State Medical Association at Paducah, October 5, 6, 7, 8, 1936.

To reach their working places in our mines, it is necessary for workmen to ride in what are known as "Man Trips" as far in some instances as seven miles. A "Man Trip" consists of from ten to fifteen cars drawn by a motor. The men seat themselves on the floor of the cars. Because of the close contact for such a long time this was looked upon as a possible source for the spread of the disease and the men were requested to buy large bandana handkerchiefs to be worn over nose and mouth in going to and from their work in the mines. After this measure was put into operation, a sharp decline occurred in the number of cases and the disease in epidemic form subsided.

Before passing on to the question of treatment I should like briefly to touch upon that of diagnosis. Of one thing we were thoroughly convinced, that the meningococci pass from the nasopharynx directly into the blood stream where symptoms of meningococcic infection may occur without evidence of meningitis. A name for this, Meningococcemia was suggested by Dr. McCormack, and is, I think, descriptive of the condition. As a matter of fact, the majority of our cases definitely proved by bacteriological examination to be meningococcic meningitis, were atypical in that many of the symptoms described in text books were absent and had we waited for their development before instituting treatment, many of our cases would have died. This is true because we were dealing with a rapid fulminating type of meningococcic infection. Many instances of the rapidity of the disease could be cited but the following histories are typical: A patient ate the noon meal apparently in excellent health; seen at four o'clock complaining of general abdominal pain, no other remarkable findings. Was seen again at six o'clock complaining of slight headache. Again seen at eight o'clock complaining of intense bitemporal headache with some rigidity of the neck muscles; temperature 99 degrees F. Patient was removed to the hospital where lumbar puncture showed a cloudy spinal fluid with a cell count of seven hundred and fifty. Spinal fluid from this case planted on blood agar slant showed typical meningococci colonies after twenty-four hours. Another case was seen at seven P. M. complaining of intense headache with nausea and vomiting. There were no neurological findings. A spinal tap showed a clear spinal fluid under normal pressure with a normal cell count. At ten o'clock, or three hours later, a second spinal puncture was done, at this time the spinal fluid escaped under increased pressure with a cell count of twenty-two hundred. In three different patients, smears were made from their blood and stained with Wright's blood stain and intracellular diplococci were demonstrable, morphologically the meningococci. An intense violent headache, bitemporal in location and important to us—not relieved by the ordinary remedies; nausea and vomiting with or without rigidity of the neck muscles and in children convulsions, were considered sufficient indications for the doing of a diagnostic lumbar puncture. With no more indications than those mentioned, we necessarily were rewarded with negative spinal fluids in a number of instances but insured to those with the disease, an early diagnosis. No cases were treated unless the spinal fluid showed an increased pressure, was cloudy and had an increased cell count. All diagnoses were confirmed later by cultures made from the spinal fluid.

We were most fortunate in having as a visitor during our epidemic, Dr. N. S. Ferry, Senior Research Bacteriologist for Parke, Davis and Company. His primary interest was to personally observe the results we were getting from the use of meningococcus antitoxin developed by him. To him goes the credit for demonstrating that the meningococcus elaborates a soluble toxin and after discussing at length with him his experimental work and his conclusions we are in agreement with his suggestion that the symptoms of meningitis can be accounted for mainly by the action of meningococcus toxin on the central nervous system.

Since the disease is one of profound toxemia our treatment was directed toward neutralization of the toxemia although meningococcus antitoxin is said to have some bactericidal action. Our series of one hundred and eight cases were all treated with meningococcus antitoxin.

The isolation department of our hospital is divided into three rooms and a hall which can be completely shut off from the remainder of the hospital. In this, all of our cases were treated until the number rendered it entirely inadequate. When the number exceeded the capacity of our isolation facilities in the hospital a residence in the town was emptied of its occupants, heating facilities installed and equipped with hospital beds, sterilizers, et cetera and put in charge of graduate nurses and orderlies, both day and night. The nurses and orderlies were required to wear masks, caps and gowns when in attendance upon the patients and the physicians were careful to don and doff mask, cap and gown upon entering and leaving the building. Incidentally, they were never used but once. When a patient was suspected of having meningitis, his nose and mouth were covered with a mask in the home by the ambulance driver, who was garbed in cap, mask and gown, and brought to the emergency room of the hospital. There a diagnostic lumbar puncture was done. If the spinal fluid confirmed the diagnosis of meningococcic meningitis, treatment was instituted, which consisted of the giving of from five to fifteen minims of adrenalin subcutaneously, depending upon the age of the patient; the drawing off as much spinal fluid as possible; and the introduction of as much antimeningococcic antitoxin into the spinal canal as would go in by gravity. In some instances, particularly in children, it was not possible to give the entire contents of one ampoule, or ten thousand units, since it contains thirty cubic centimeters by volume. Twenty to forty thousand units were then mixed with two hundred cubic centimeters of five per cent glucose in saline and given intravenously. The patient was then removed to the temporary hospital where within eight hours following the initial treatment, the same dosage was repeated both intrathecally and intravenously. This was continued religiously at intervals of every eight hours until the spinal fluid was clear, but not necessarily colorless since the horse serum of previous treatment often discolored the spinal fluid and the cell count and pressure were normal, when intraspinal treatment with the antitoxin was discontinued. The giving of antitoxin intravenously was stopped when the patient was rational; temperature normal; and the patient called for food. Strange though it may sound, the return of an appetite was criterion upon which we came to depend in determining the recovery of the patient.

A small number of our cases after an interval of from three to seven days in which they had no symptoms, showed a recurrence of the disease, calling for additional treatment. In these cases our rule was that if they had not been treated for forty-eight hours, they were skin tested for hypersensitiveness to horse serum. In some instances they were found to be very hypersensitive. We then desensitized them and continued the treatment as before.

The following complications developed in our series: There were two cases of internal strabismus that entirely recovered; one of complete deafness that has remained; one of panophthalmitis with loss of vision in the eye; two of orchitis with recovery; one case of hydrocephalus in an infant that died sixty-six days after it had recovered from the acute symptoms. There were five cases of pneumonia evidently meningococcic, in type; all recovered. There were no cases of blockage encountered.

The total of one hundred and eight cases has been divided by us into two groups.

One group totalling ninety-five cases are those that occurred within the town of Lynch where they were seen, diagnosed and treated by our staff of physicians. In this group there were six deaths or a fatality rate of six point three per cent. The second group, thirteen in number were imported cases, that is to say, they were not seen by us until the disease was well advanced or the patient in extremus. In this group where the diagnosis had been delayed, or not made at all by physicians outside our group, the number of deaths was five, or a fatality rate of thirty-eight point four per cent.

In this connection I should like to mention the very generous attitude of our Company in furnishing without any additional cost to our patients over that paid by them monthly, thousands of dollars worth of meningococcus antitoxin. Through cooperation on the part of the management we were supplied with everything for which we put in a request. Dr. Sherman, our Chief Surgeon in Pittsburgh, was in almost daily communication with us by telephone and gave us many helpful suggestions. I am deeply grateful to my associates, Drs. L. E. Payton; J. G. Holland; P. E. Hale; and J. W. Fish for their untiring efforts in the treatment of the disease. To treat these patients every eight hours meant the loss of considerable sleep on their part.

To Dr. McCormack, Dr. South, and Dr. Caudill and their associates we shall always be very much indebted. They came to our rescue at a time when we were sorely in need of help and gave unstintingly of their advice and supplied us with the necessary culture media and equipment for controlling the disease from the standpoint of contacts and carriers.

DISCUSSION

W. R. Parks, Harlan: The City of Harlan erected an emergency hospital for the care of cases happening over the entire county, except

Lynch and Benham where they had adequate hospital facilities. We admitted and treated in the hospital sixty cases with a mortality rate of 10.3.

I should like to discuss the quarantine methods and management of carriers if time should permit, but will use my time in discussion of the treatment. Suffice to say that all patients should be rigidly isolated and all contacts quarantined. It was our experience that the incidence of these cases came out of homes poorly sheltered, poorly ventilated, inadequately heated and usually overcrowded. The families were usually poorly nourished, and for the most part lived in very unsanitary quarters.

The diagnosis of the disease in an epidemic is simplified. On report of a few cases the profession becomes meningitis minded and subsequent cases are recognized early. At Harlan, suspicious cases with rigid neck muscles, headache, and the other accompanying symptoms were given diagnostic punctures. All spinal fluids under pressure or the least bit cloudy would be given a dose of anti-serum then and there. The fluid was carried to the laboratory for diagnosis, and if on smear the organisms were found, the patient was immediately removed to the hospital. On arrival there he was given intravenously anti-serum or antitoxin well diluted with 10 per cent glucose.

Every twelve hours he received more intraspinal serum, and also intravenous as long as his toxemia persisted. His intraspinal treatments were given until no organisms were found on primary smear. Then he was drained daily for several days and then twice a week during the balance of his stay in the hospital. I am sure that spinal drainage, after treatment has ceased, is a very valuable procedure, and I further feel that it has a very direct influence on the incidence of recurrence.

We used anti-serum on most of our cases. We used antitoxin exclusively on some several cases. Both remedies are valuable, and in a few cases we were obliged to switch from one to the other and vice versa.

We treated several infants ranging from two months to seven years. We had the experience in treating these very small babies, of finding the spinal fluid gelatinous after a few serums were given. The smear would be negative at the puncture point. Symptoms demanded more treatment and we gave cisternal injections. Curiously enough, in the cistern we found the fluid thin with a positive smear and very much increased cell count over the fluid at the lumbar region.

We believe that our experience taught that large quantities of fluids, either by vein or hypodermoclysis, were very valuable. We usually combined glucose for its buffer effect as well as a nutrient.

Since these cases always offer a problem of nursing and demand close medical supervision, I think it is wise to advise that all cases be removed to a hospital, or if that is not possible, at least two nurses are needed to care for them.

Our experience in Harlan County, so far as the epidemic was concerned, became much less of a problem when the emergency hospital was set up and an adequate nursing staff secured.

We have had three recurrences in one to three months after discharge from the hospital. One of these cases has recurred three times.

We encountered the following complications: three cases of block, one orchitis, one with paralysis of muscles of deglutition, two blindness, one deafness, and one case of hydrocephalus.

F. W. Caudill, Louisville: I enjoyed Dr. Petty's paper a great deal because it was my privilege to know how hard he and his associates worked up there to control the situation with which they were confronted and to produce the excellent results which they obtained. I think if he had told you the whole truth he would have stated that they had about 110 cases with six deaths, two of which were not actually chargeable to his town, because they were in a moribund condition when they were brought in from outside the town. Such a mortality is not approached elsewhere in the literature.

The control of meningitis revolves around certain things, all of which were brought out in Dr. Petty's paper, as you must have observed, if you followed it closely. First in importance is a prompt diagnosis and prompt isolation of the patient and his immediate contacts.

Next in importance is, of course, to report the case, if there is a local health authority, so that the cases in the locality may be accurately tabulated and a true picture of the situation known at all times.

Third in importance is to keep isolated those who have been put in isolation. That was excellently done in Lynch, as you have heard Dr. Petty say.

The thing which I want to stress particularly is that our best and most reliable way of controlling meningitis, in so far as we know today, lies in our effort to control the death rate. And to control the death rate, we must diagnose the case as promptly, as was done in Harlan, and treat it promptly. The control of epidemic meningitis rests largely on the shoulders of the general practitioners who see the cases first. They should be meningitis minded, they should be looking for the disease when it is prevalent, and every child suspected of having the disease should be watched closely. Symptoms such as stiff neck, rash, vomiting, severe headahe, when the child is old enough to complain of it, should be regarded as definitely suspicious and a spinal puncture done, if there are sufficient signs to warrant it. Of course, at the time the initial spinal puncture is done treatment should be promptly instituted, as was done in Harlan County, if the spinal fluid is found cloudy.

To date we have had 648 cases of epidemic meningitis, by far the majority of which have been reported from the epidemic area of Southeastern Kentucky, which comprises about ten counties. Out of those 648, we have had 141 deaths definitely reported, giving us a death rate of around 23 per cent. That death rate is, I think, excellent. I know that it is excellent, considering the severity of most of the cases and the difficulties of reaching and treating them. And that death rate is, I think, due to intensive efforts at control, both by physicians and health officers, because in every instance where we had the disease it finally became my duty as State Epidemiologist to go from county to county and help set up any facilities that were necessary promptly to isolate and treat the cases.

Arthur T. McCormack, Louisville: I just want to leave a word of caution with every member of the profession in the State in regard to the situation that confronts us in the coming year. We have had more cases of epidemic cerebrospinal meningitis during the summer of this year than we have ordinarily had during the winter in any other year, except last year. This makes us very apprehensive about the situation that is likely to develop.

The situation in Harlan County is absolutely ideal. There is no other place in the United States where it would be possible to have the cooperative police organization which functions so effectively in Harlan County. They have not only a splendid profession, a large group of very capable and experienced physicians who are very alert; they have also the facilities and the wealth with which to control this difficult situation. Our greatest difficulty is in the poorer counties, where there are very few physicians and where the cases are seen very late. But even there we can make progress, after we have gotten people to understand the situation by wise publicity and by carefully not alarming them beyond the point of tolerance, while, at the same time, filling them with enough intelligent alarm to cause them to realize that, when anybody is taken sick, he or she should be seen by a physician at once. We have found it necessary in some of the counties to send in additional medical help and quite a good deal of additional nursing help, and we have furnished laboratory technicians in almost all the affected counties, except Harlan, because in none of the others were the local authorities themselves able to provide such technicians.

This was a tremendous problem; it was a wonderful victory for Kentucky.

I want to express my appreciation to Dr. Petty and Dr. Parke and their associates for their excellent work in Harlan; also my appreciation for the very effective work done in Pike and Letcher and Perry and in the other counties by their respective health departments and the physicians associated with those health departments in the control of this very menacing epidemic. I think, considering the widespread area and the difficulty of the terrain and the poverty of many of those affected, it is probably one of the finest victories that has been won by medicine over one of the most threatening and serious conditions which ever confronted us.

Our difficulty for the coming winter is very great because the actual cost of treatment is enormous. In those sections where we found the antimeningococcic serum could be used, it cost very much less than the antitoxin, and where it is specified, as it has been in many sections during this epidemic, it is, of course, far preferable from an economic standpoint. We had a number of cases in Louisville. We had pretty serious complaint about the death rate because, in Louisville, too frequently, the cases were diagnosed somewhat late, as is more apt to happen in a city; they were gotten to the hospital still later, and the consultants who saw them in the hospital generally saw them after several days, when it was really too late to do anything very much in the serum treatment of the disease. Hospital consultants can't have the same faith in the treatment as the general practitioner who is seeing his cases early and making a diagnosis immediately. The pictures are entirely different. In Louisville the fiscal authorities complained that the material for treatment of each case cost about $80, but I explained to them that their death rate would have been very much lower if they had spent more for treatment and could have made the diagnosis earlier and the treatment had been given immediately on the diagnosis at home, before the case got to the City Hospital. That is one of the complexities of urban civilization and urban treatment as compared with treatment where a man is in the habit of doing what he has to do right now, instead of waiting until he has a consultation. The complexity of the modern hospital does not lend itself to being "struck by lightning," as is the case with these men who are doing emergency work in the smaller hospitals in the mining sections of the State. The industrial work done by physicians, in our mines in Kentucky is the sort of thing the profession can take great pride in. These men are doing a remarkable work in most of these mining communities; they are giving their people wonderful treatment; they are giving them great care, not only in cases of emergency, but ordinarily and all the time.

I think we ought to take a great deal of pride in what has been accomplished by the profession of the State. The legislature has made a special appropriation for the prevention of an epidemic this year. We are using it just as widely as we can in the sections where there is a considerable amount of the disease, and we will look forward with great anxiety to the coming year, but with greater confidence than we ever had in the wonderful professional spirit of the physicians of Kentucky and the support that is being given them by their people everywhere.

THE HEALING PROCESSES IN TUBERCULOSIS*

C. H. Cocke, M. D., F. A. C. P.

Asheville, N. C.

Thirty years ago the death rate from tuberculosis in the United States was approximately 186 per 100,000 of population. Today this rate is approximately one third of that figure. It would be gratifying to accord to the medical profession and allied professions complete credit for this astounding drop in the mortality rate, with an accompanying, if not absolutely parallel, diminishing morbidity rate; but candor forces the admission that there has been the same lowering tiend of rates in countries where not so intensive programs of combating the disease have been undertaken as we have prosecuted.

Speculation as to the explanation of this phenomenon would not be in place here, though it doubtless inheres somewhat in those factors of resistance, inherited and acquired, to which my eminent predecessor, Dr. Long, addressed himself last year. No one for a moment would underestimate the important part played in protection from the spread of tuberculosis by the proper segregation of open cases, made possible by the large number of sanatoria, private, municipal, county, state, and federal, built in recent years. Again, the much higher standard of living of the present era compared with only a generation ago, possible by reason of the improved social and economic status of our people, as well as the improved housing, sanitary, and health conditions generally, the better quality of food and milk supplies, the better physical training of youth in schools and colleges, the more widespread publicyzing of the rules of health by newspapers, magazines, the radio and health bulletins, and doubtless many other similar factors must be considered in possible explanation. And yet beyond all these there has been an altered response observable on the part of the human race to the infection of tuberculosis, which for lack of better phraseology we can only call changed or improved resistance—and for this I fear we can claim no credit. I say this advisedly for I would be the last to detract from that real contribution which modern treatment has had to offer in the attainment of this remarkable drop in morbidity and mortality rates.

This discussion is not concerned, however, primarily with the methods by which healing or curing of tuberculosis is attained, but rather with the processes by which this is accomplished. Since any understanding of these processes is dependent upon a knowledge of events resulting from the implantation of bacilli in the human body, a very brief and primary discussion is presented for which I ask your indulgence. When bacilli enter the body, the tissues react in a specific way with the development of a definite bloodless growth inclosing and encysting the bacilli, which we call the tubercle. Immediately immuno-biologic processes are set up, resulting in potentially permanent tissue sensitivity, which we call allergy, and also a depot of bacilli is established within the body. It is precisely at this point that the debate begins as to the relationship of allergy and immunity. Romer, Baldwin, Krause, and other early workers largely influenced by their studies the development of the hypothesis that allergy was a very important factor for successful immunity, as well as being an index of the extent and progress of the tuberculous process. It must be admitted that up to quite recently the majority of investigators, both American and European, were of the belief that acquired resistance to the disease was largely due to, or was associated with the allergy resulting from infection by the tubercle bacillus. Since this hypersensitiveness was so easily determinable by the tuberculin (tubercle protein) test, immunity was assumed as a concomitant development. Krause after a brilliant series of experiments, enunciated four conclusions: (1) there is no hypersensitiveness without a focus; (2) this hypersensitiveness appears at the same moment with the development of the focus; (3) with the healing of the focus, it diminishes and may totally disappear; (4) it varies directly with the disease, which in turn depends upon the virulence of the inoculated organism. Rich, Willis, and others have challenged the conclusion that immunity and allergy are synonymous. Rich (1) well points out that since most of the tissue destruction responsible for manifest disease is the result of allergic hypersensitiveness, and is supposed to be the price the body pays to develop its immunity, it is a matter of supreme importance to determine definitely if allergy is necessary for immunity. This opinion he claims is only an opinion unsubstantiated by proof. Furthermore, if allergy is necessary for immunity, attempts to abolish it would naturally impair immunity, an obvious error. From the experiments of himself and his colleagues he found that (1) immunity can be established without the concomitant development of allergy, (this series dealt with syphilitic infections); (2) that immunity could be separated from allergy by passive transfer (pneumococcus); (3) that when allergy is abolished by desensitization, immunity is left intact (pneumococcus). These last experiments on desensitization were successfully extended to tuberculous infection in his laboratory by other workers.

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*Address before the Jefferson County Medical Society under the auspices of the Louisville Tuberculosis Association, Louisville, December 7, 1936.

To which Krause (2) replies, "The present writer has not been able to prove experimentally that immunity is a function of allergy, yet he considers that practically all the evidence, clinical, pathological, and experimental, points that way."

I leave this with the statement that only the future will prove which is right, though from clinical study and observation alone I am inclined to lean to agreement with Krause, without in any sense attempting to combat the validity of Rich's argument; and further, I agree with the recent statement of Pinner (3) that the two essentials that are apparently known with certainty of allergy in tuberculosis are: "(1) Allergy can be produced only by infection with (living or dead) tubercle bacilli. (2) Allergy accentuates and hastens the native tissue reactions against tubercle bacilli."

Pathogenesis

Something must be said briefly of the pathogenesis of tuberculosis. The specific tissue reactions to the tubercle bacillus are two fold —proliferative (from its fats and waxy capsule), and exudative or inflammatory (from the proteins). The former is native or inborn; the latter is not, but is acquired through a primary infection. Without tubercle, there is no exudative reaction; with tubercle, the body will react with varying grades of inflammation depending upon the number of focalizing bacilli, or on their injected protein products (tuberculin) as well as the degree of specific hypersensitiveness (tissue allergy) present.

Primary nodular tubercle, the result of first infection, is quite leisurely in its development, while the exudative reactions, which are only possible in allergic tissue, are always the result of reinfection, whether of endogenous or exogenous origin, and develop with considerable rapidity. Since primary tubercle sensitizes the body, it is shortly afterwards allergic itself; and its bacilli, when conveyed to fresh tissue, naturally lodge in allergic soil. This small nodule then epitomizes the pathology of the disease tuberculosis, for it goes through all the tissue reactions found in tuberculous processes of all kinds. Primarily and essentially a proliferative product, when it becomes allergic it may show exudative features, and go on even to central necrosis from cellular degeneration. While necrosis is happening centrally, fibrosis and repair may be going forward peripherally; and the issue in the case depends upon which predominates. This in turn is largely dependent on the number of bacilli present in the center of the tubercle. The fewer in number they are, the more favorable the chance for fibrous encystment; the greater the number, the greater likelihood of necrotic extension, with migration of the bacilli to fresh soil and the development of new tubercle. Thus eventually conglomerate tubercles are formed. Multiplying this process many times, with a proliferative capsule still enveloping the whole, central necrosis and liquefaction may occur, and the well known cavity is present. So we see the unity of all tuberculous processes which it was the glory of Laennec to appreciate, though naturally he could not know our modern concepts of pathogenesis—a cycle of four pathological processes: (1) proliferation, (2) exudation, (3) necrosis (caseation), and (4) fibrosis and repair.

When one pauses to think of the enormous number of conglomerate tubercles that must form finally to cause clinical disease, and that these are of every type, stage, and anatomical structure, it is quite apparent why the effect of tuberculoprotein constantly upon a lung harboring such tubercles is protean. Undoubtedly herein lies the key to the sequence of progress and regress in the disease. One thing would seem established—that clinical tuberculosis is caused by tubercle going through allergic phases, and that these allergic reactions are continually going on in the lung and consequently modifying pathological processes—some productive of symptoms, others apparently stimuli to healing. Both proliferative and exudative processes may be going on in the same lung concomitantly. Either may heal or progress. Of the differences between primary and secondary infections and their modes of progression there is no time for discussion save to say that since this discussion deals with the disease of the lungs as manifested in adults, it is well to remind that this is practically always a secondary infection, and progresses by continuity and through preformed channels. A discussion of the morphological aspects must necessarily be limited, as I wish to discuss the matter of healing from the clinical standpoint.

PATHOLOGY

The earliest manifestation of adult tuberculosis is usually the subclavicular, exudative process which goes by many names, the Assman focus, early infiltrate, infraclavicular infiltrate, and so on. It soon goes on to regression or progression, for it is subject to all the processes of resolution or resorption, fibrosis, caseation, liquefaction, and cavity formation. If this latter occurs, the cavity being a potential supply of reinfection, may well dominate the picture; and the hazards of bronchogenic spread and organ complications are greatly increased. New foci then appear similar to the early lesion, but owing to massiveness of dosage may be rapidly destructive. The story is then one of progression and repair, in sequence or simultaneously with the added hazard of possible hematogenous spread. If, on the other hand, the processes of healing are in the ascendant and the disease not progressive, resolution and fibrosis go forward with ultimate recovery. What are the processes necessary for achieving this happy result?

THE HEALING PROCESSES

In recovery from infection phagocytosis plays an important part; in tuberculosis the polymorphonuclear leucocytes alone would seem to be unable to destroy the bacilli, but act as means of transport to the lymph structures where cellular defenses arrest them. No matter by what portal of entry tubercle bacilli get into the body, they are carried into the lymphatics, generally finding arrestment in the lymph nodes. Retardation of dissemination of bacilli by allergized tissue has been thought to be a potent manifestation of immunity. Rich (1) states that "However, in all of the experiments, blood cultures, and microscopical studies made it is perfectly clear that the immobilization of the bacteria in the immune, nonallergic body was just as effective as it was in the allergic one," and, "It is clear that the primary agent responsible for the local immobilization of bacteria is the immune antibody and not allergic inflammation." Antibody formation certainly takes place in tuberculosis, but what role these antibodies play in recovery from the disease is not only problematical "but from many points of view unlikely." (4). Desensitization to bacillary and other protein toxins is constantly going forward automatically by absorption of these products. Such is the basis of tuberculin therapy of course; and while formerly such a mode of treatment was much in vogue a generation ago, this specific treatment is reserved almost entirely now for such manifestations of tuberculosis as those of the eye, the urogenital tract (in rarely selected cases), the glandular system, and disease in observable regions, all unaccompanied by very definite evidence of active pulmonary disease. At best it can be but a partial help.

One of the prime efforts at protection which the tissues engage in is the encystment or encapsulation of bacilli, first in fibrotic and later in calcific tissue. As long as the tubercle remains bloodless and devoid of communication by means of the blood or lymph streams, the body is safe, and clinical disease does not occur. It is only when this capsule softens or is broken, with extension either by contiguity or by lymph and blood channels that definite and spreading disease occurs. The constant effort at repair in tuberculosis manifested by fibrous tissue formation in the periphery of the lesion is nature's effort not only at mobilizing the bacilli in their then present location, but also an effort at isolation of this focus from the general system by preventing spread by contiguity and by channel extension. The so-called productive type of disease, in which large quantities of fibrosis may occur with arrestment of the tuberculous process, may at the same time have crippling effects because of the enormous interference with respiratory and circulatory functions. Of the distortion of the trachea, diaphragm, and heart, as well as pulmonary shrinkage, I shall speak later, with illustrative slides. Of the tendency of massive fibrosis to encourage the later development of bronchiectasis and emphysema, mention must also be made, though lack of time precludes a discussion of this penalty sometimes paid for such healing.

The role of calcification as a healing process unfortunately can not at present be related to any known calcium studies of the blood, or markedly modified by or attributed to calcium intake. That at times it plays a quite prominent part in the healing of massive tuberculosis I think I can show you by the films. As such it is quite generally deposited in the foci where much resolution has first taken place, and of course it is often combined with fibrosis. That I can give you any adequate explanation of why this sometimes happens is not to be expected, but awaits perhaps the happy day when parathyroid activity is better understood, or some other at present little understood factors influencing calcium metabolism are better known.

But beyond these methods of healing, there is that great one known as resorption or resolution, which accounts for so large a part of the disappearance of the exudative lesions of tuberculosis. Statistical determination of its proportionate role in the cure is impossible until better means are at hand in evaluation of all the various elements in the pathology of clinical disease. Conclusions as to the nature of the pathology drawn from the physical examination are largely modified by the acuity, experience, and knowledge of the examiner, while the roentgenologist offers perhaps more aid in the assignment of names to things seen. Of his fallibility it behooves an internist to speak with due modesty, trepidation, and reserve, knowing full well the limits of his own explorative knowledge. However, it needs no emphasis to say that recent exudative lesions, being practically inflammatory in nature largely heal by resorption. It is when we come to those lesions called by roentgenologists fibrocaseous and caseous that difficulty is met. These are seen at times to disappear in the serial film with such a high degree of completeness as to question either the correctness of the definition or else raise the question, as I did six years ago in this city, in speaking before the Southern Medical Association (5), of whether caseation does not actually resolve; and if not, was it not time for a revision of roentgenological terminology? Further study convinces me that the disappearance of much that was thought to be fibrosis is in distinct ratio to the proportion of that fibrosis which is still inflammatory in nature. It is, I am sure, an act of supererogation to recall to you the completeness and even rapidity of the disappearance with complete healing of tuberculosis of the peritoneum and less rapidly of the testicle, while ocular tuberculosis you have all seen disappear leaving no trace of its former presence. Thanks no doubt to improved dairy products, tuberculous cervical lymph node disease is no longer of common occurrence, though those of you of my generation remember the vast number of these cases seen a generation ago in the metropolitan hospitals, and will recall the disappearance of these sometimes enormously enlarged masses of nodes under proper management. In the brief outline of the pathogenesis of the disease is of course found the explanation of all this. However, it took the serial film to show that what was going on elsewhere in the body, peritoneum, testicle, eye, was likewise occurring in the lungs.

That caseous, tuberculous lesions may be seen to disappear from the lungs of experimental animals has been demonstrated many times. When this fails to occur in the human, and liquefaction necrosis results in cavity formation, still this is far from being as hopeless a situation as might be expected. I think that no one will deny that softening, enucleation, and expectoration of certain foci are essential to healing in many cases, which otherwise would not heal.

What of the healing of cavities? When rapidly formed cavities occur with thin walls possessing little fibrous elements, these may be seen to disappear with completeness, while certain thicker walled ones may also largely disappear or else be replaced with strands or bands of fibrous tissue, connecting deposits of calcium or not as the case may be.

From this the deduction is reasonable that at times the cavity may be considered not a wholly destructive but possibly a conservative process. The difficulty of healing a necrotic, caseous mass is largely obviated by its expulsion through its connecting bronchus. This leaves the cavity wall by no means so dangerous a focus of dissemination of bacilli as its central caseous portion, as was first pointed out by Koch, and has been observed ever since. The teaching of some years ago that all cavities are perpetually sources of infection is not universally true; the dry, indurated, shrunken walled cavity, in densely fibrous tissue may still give evidence of its cavernous nature, and yet not give off bacilli. Of course the object of treatment should be to treat the disease in such manner that this possibility of an indurated, uncollapsible, and fibrotic mass may not occur. For when such a state exists, the disablement from such a degree of fibrosis is itself embarrassing, and may reach the extremes of practically incapacitating the patient for any degree of physical exertion, though he may not be actively ill with tuberculosis. It is thus quite evident which lesions in the healing lung may lose all physcal signs on examination and be either absent in the film or replaced by something quite different from the original appearances.

But before briefly recapitulating, a few words as to the lack of parallelism between disappearing symptoms, receding signs, and altered radiographic findings. These are by no means coincident, nor when they are concomitant is the degree of recession similar or of equal degree. It is by no means uncommon to note the persistence of auscultatory phenomena long after symptoms referable to the lungs have ceased, and when the films show almost if not totally vanished pathology. The explanation possibly lies in the persistence of certain definite changes imperceptible in the film. Again, marked radiographic evidence of the disease may persist without physical signs being obtainable; and in this instance there is the added difficulty dleton[7] in 1920, reported a series showing all cases to be either due to a congenital abnormality or following an acute infection. Yater[8] the outstanding student of congenital block has shown that cases are probably less rare than formerly supposed. These cases generally have other congenital cardiac abnormalities. Thus, we must say that heart block in children is based on a congenital abnormality or an acquired myocarditis.

NEURO-CIRCULATORY ASTHENIA (EFFORT SYNDROME)

Neuro-Circulatory asthenia is rare in the first decade, though Lincoln[5] found four cases among three hundred and twenty-five school children. In the second decade it becomes much more frequent as adolescence is approached. These children are as a rule of normal size and weight, but show poor muscle tone and posture. They tend to be apathetic and show little eagerness to expend energy in any direction. Fatigue is easily brought on and there are often nervous symptoms. Intensification of the symptoms is found after exercise or during acute infections. At times dyspnea and slight cyanosis appear on moderate exercise. Occasionally syncopy is the most prominent symptom making differentiation from petit mal difficult. Sinus arrhythmia, extra systoles and transient murmurs often are present. The hearts of these patients may be below average size, but not below the limits of normal. It may be difficult to rule out a congenitally small heart but children with this condition as a rule are definitely underdeveloped. In treatment cardiac symptoms must be disregarded and the patient must be persuaded to disregard them also. Graded exercises are important, if possible the patient being trained, to prefer outdoor games to sedentary amusements.

ACCIDENTAL OR FUNCTIONAL MURMURS

DIASTOLIC MURMURS: Very rarely a diastolic respiratory murmur may be found in the pulmonic area. These are heard only in the recumbent position and vary with respiration. At the apex a diastolic murmur is always organic. An Austin Flint murmur though a functional murmur is never heard except with organic heart disease and thus we need not discuss it.

SYSTOLIC MURMUR: Like so many other physical signs the interpretation of systolic murmurs has varied greatly. Thirty years ago a systolic murmur was always considered as a sign of heart disease. Countless children were put at complete rest for long periods because of harmless murmurs. This remained the situation to a great degree till the time of the great war. As it became recognized that a systolic murmur was often functional in character the pendulum quickly carried us to the opposite extreme and systolic murmurs were too often completely disregarded. At present there is much interest in the systolic murmur and we are learning to consider it carefully and not to forget its presence till complete studies have been made.

It would be well to consider first the mechanism of the production of functional systolic murmurs, taking it for granted that organic disease has been eliminated. First, there is the murmur due to dilatation of valve rings. Such murmurs are commonly heard when there are cardiac dilatations from any cause. Secondly, respiratory murmurs, probably the most common of all functional murmurs, are caused by air rushing into the lung borders as the heart contracts away from the chest wall. Thirdly, murmurs may be caused by obstruction to blood flow by angulation or rotation of the heart and great vessels. Fourthly, some murmurs may be due to poorly fitting though normal valve cusps. Lastly, many functional murmurs are probably caused by increased velocity of blood flow through the constrictions of the valve rings into a larger passage beyond. Thayer[9] first suggested this last theory showing how any fluid passing through a tube in which there is a constriction produces a palpable thrill and an audible murmur just beyond the constriction. Levine[10] has shown that in conditions such as anemia, hyperthyroidism, in high fever, and after brisk exercise with the increased activity of the heart, there is increased velocity of the blood. The functional murmurs heard in these conditions are therefore probably due to vibrations set up by the blood passing at a rapid rate through the constricted areas, the valve rings, into the larger and dilatable areas beyond.

Accidental or functional murmurs may be heard at times over any portion of the precordium, but it will usually be found that the point of maximal intensity is over the aortic area, the pulmonic area, or at the apex. In this discussion of murmurs, we shall take it for granted that no other sign of heart disease is present. White[6] contends that no functional murmur originates in the aortic area. Other men, notably Thayer, claim that functional murmurs at times originate at the aortic ring, usually in grave anemia, hyperthyroidism, with fever, and after brisk exercise. This is a soft, blowing, poorly transmitted systolic murmur. There usually is accompaning this a much louder murmur at the pulmonic area. This is the type of murmur the mechanism of which is increased blood flow through the constriction of the valve rings. This is the only type of functional murmur heard best at the aortic area.

A systolic murmur at the pulmonic area is the commonest of all heart murmurs. In about eighty per cent of children under ten years of age a functional murmur may be brought out by placing the patient in the recumbent, or left recumbent position, especially in full expiration. These murmurs usually disappear in the upright position, but many do not. This murmur is soft and blowing in character, never musical. It starts early in systole, but never replaces the first sound and lasts through most of systole. If the murmur is heard in the erect position, as well as in the recumbent, unless it is of marked intensity it is still a functional murmur.

The mechanism here is probably partial obstruction to blood flow by angulation or rotation of the heart and great vessels, though those heard in any position may be due to poorly fitting though normal valve cusps. In anemia, hyperthyroidism, fever and after exercise there is often a quite loud systolic murmur at the pulmonic area. This is generally blowing but may be musical. It is heard in any position. This is the type where there may be a systolic aortic murmur also. The mechanism is the same as the aortic murmur. Here the diagnosis of the underlying condition proves the murmur functional.

It is at the apex that we must first eliminate a respiratory murmur. It usually is heard best here though the point of maximal intensity may be anywhere along the left border of the heart, or at times in the pulmonic area. It is usually a short murmur, soft or blowing in character, at times starting late in systole. It always varies with respiration, often being present only on inspiration, usually disappearing entirely with the breath held in full inspiration. This murmur is poorly transmitted, but at times it is well heard in back over the left lung.

For all other murmurs at the apex it is important to consider the intensity for functional murmurs are not intense. The importance of this is shown by series of cases such as Fineberg and Stewer[11] who followed one hundred children with so-called uncomplicated systolic murmurs. They state that the murmurs were of varied intensity, but do not record the intensity in relation to outcome. Of the hundred, one died within two years of bacterial endocarditis, seventeen developed mitral stenosis in an average time of four and seven-tenths years, nine developed aortic insufficiency in an average time of three years and four showed a combination of aortic and mitral lesions. Thus thirty per cent developed serious valvular lesions. For the purpose of judging the intensity of a murmur it is valuable to use a system of grades. Levine[10] has classified systolic murmurs into six grades of intensity. Most of us are more used to White's[12] system of three grades. Under this system apical systolic murmurs of grade one are those soft blowing, never musical murmurs heard best with the patient in the recumbent position, usually in thin individuals. If it is heard only in the recumbent position it is certainly functional. These murmurs of grade one are poorly transmitted if at all, not because they are functional murmurs, but because transmission depends on the intensity of the murmur. White believes these murmurs are probably due most often to poorly fitting, though normal valve cusps. It is more generally believed that angulation or rotation of the heart and great vessels with partial obstruction to the blood flow is the probable mechanism. Murmurs of grade two, or moderately loud, rough or musical murmurs transmitted to the axilla and back are usually due to an organic lesion. Levine believes that they are always organic, and if no other signs of heart disease can be elicited such signs will appear within a few weeks or months. Most observers believe that murmurs of moderate intensity may appear at the apex in grave anemia in hyperthyroidism and in acute febrile conditions. Certainly, if after very careful and thorough study, no other signs of heart disease can be elicited, while one of the before mentioned conditions is present, it is safe to make a diagnosis of a functional murmur. Some observers believe that with the conditions mentioned there is a slight dilatation of the valve rings, thus causing the murmur. I am inclined to agree with Thayer and Levine that the mechanism of increased blood flow through constricted areas, the valve rings is the one active here. Grade three or very loud apical systolic murmurs are always due to some abnormality of the valves or the valve rings.

BIBLIOGRAPHY

(1) Levine, S. A., "Clinical Heart Disease," W. B. Saunders Co. 1936.

(2) Shookhoff, C., Litvak, A. M., and Matusoff, J., "Paroxysmal Tachycardia in Children," Am. J. Dis-Child. 43:93 (Jan.) 1932.

(3) Clark, T. W., Paroxysmal Tachycardia in Infancy. Arch. or Ped. L11·666 (Oct.) 1935.

(4) Siemsen, W. J., "Evaluation of Nonorganic Ausculatory Cardiac Findings and the Venous Hum in Children," Am. J. Dis. Child. 47:1110 (March) 1934.

(5) Lincoln, E. W., "The Hearts of Normal Children," Am. J. Dis. Child. 35:398 (March) 1928.

(6) White, P. D., "Heart Disease," MacMillan, 1931.

(7) Eyster, J. A. E., Middleton, W. S., Auriculo-Ventricular Heart Block in Children." Am. J. Dis. Child. 19:131 (Feb.) 1920.

(8) Yater, W. M. "Congenital Heart Block," Am. J. Dis. Child. 39:112, 1929, Yater, W. M., Lyon, J. A., McNabb, P. E., "Congenital Heart Block." J. A. M. A. 100:1831 (June 10) 1933, Yater, W. M., Leaman, Y. G., Cornell, V. H., "Congenital Heart Block," J. A. M. A. 102:1660 (May 19) 1934.

(9) Thayer, W. S., "Reflections on the Interpretation of Systolic Cardiac Murmurs." Am. J. Med. Scien. CLXIX:313 (March) 1935.

(10) Freedman, A. R., Levine, S. A., "The Clinical Significance of the Systolic Murmur," Ann. Int. Med. VI:1371 (May) 1933. Levine, S. A., "The Systolic Murmur, Its Clinical Significance," J. A. M. A. 101:436 (Aug. 5) 1933.

(11) Fineberg, M. H., Stewer, L. G., "Apical Systolic Murmurs in Children, Follow-up Observations.' Am. Heart J. VII:553 (June) 1932.

(12) White, P. D., "The Clinical Significance of Apical Heart Murmurs," Am. J. Med. Sciences CLXXIV:731 Dec. 1927.

DISCUSSION

Philip F. Barbour, Louisville: Dr. Warfield has given us such a very comprehensive review of the subject, that it would be well worth our time to take his paper at our leisure when it is published and go through it and get all the fine points that he has given us. It is really so meaty that it is difficult for us to follow and get all that is in it from hearing alone.

I asked for this subject to be discussed particularly because I have seen children so abused and so mistreated because of failure on the part of the physician to recognize that the trouble with the child's heart was purely a functional trouble. I have seen these children pass through a month or two months or three months or even longer of being confined to bed when there was absolutely nothing seriously the matter.

If an adult comes to us with any suspicion of heart trouble, or anything else, as we count the pulse we find that it becomes more and more frequent due to excitement. Many times we don't realize that the child is equally excited its heart more rapid and frequently quite irregular. Simple irregularity of the heart in the child is often nervous in origin. Also many times it is an evidence of conditions below the diaphragm, sometimes of indigestion, sometimes of failure of hepatic secretion with consequent irritation of the pneumogastric nerve, which will cause irregularity of the heart, that eventually will pass away.

When we treat a child with an irregular heart we should make our first point of attack the conditions in the alimentary tract.

The second point the essayist has elaborated upon is the presence of functional murmurs in children, and this is the occasion for so many children being put to bed needlessly. They have a great number of different types of murmurs, as has been brought out, and it is up to us to determine whether these are purely functional or whether they are due to lesions of the heart itself. Certainly if it is a functional disturbance, why should that child and the family be kept on the anxious seat for weeks and months when by a little extra care on our part we can determine that it is functional and can turn the child loose? This thing of fastening on the child the impression that it has heart trouble and cannot run and play and ride a bicycle, skate and do all the other things that children do, is certainly affecting the psychology of that child in a very bad way.

One point that I think can be of great help to us in determining whether it is a functional or an organic murmur is the outline of the heart itself. If you find that the outline of the heart is definitely normal you can be very certain that the murmur is functional in type, because anything that produces a real disturbance in the heart, in the valves, is going to show itself in a change in the outline of the heart, either in the mitral area or in the movement of the apex to the left or downwards. In the absence of this I am rather more inclined to look upon the case as a functional disturbance than one of an organic nature.

TREATMENT OF THE DIFFERENT TYPES OF EDEMA*

F. M. Travis, M. D.

Frankfort.

I shall enumerate the different types of Edema.

Circulatory may be subdivided into two groups. First, those in which the disturbance is due to cardiac failure. Second, those which are due to circulatory disturbance in the portal system, largely cases of cirrhosis of the liver.

We have renal edema, nutritional, inflammatory, anaphylactic and peripheral obstruction edema where the obstructions are either in the veins or lymphatics. There is also a group of edema from the endocrine disturbances. The most characteristic of these are deficiency in the function of thyroid, namely, myxedema. There is a group which is apparently associated with the female sex organs.

From the clinical point of view we look upon edema from two angles. First, we can regard edema merely as an index of some pathological disturbance that is present. We can consider its variations as evidence of progression or regression in the process, that is, the form of edema which often is present in rather minor degrees and requires no treatment. It might be called the edema that is the friend of the physician because it puts him on the track of finding out what is the matter with the patient.

Another form of edema that interests the clinician is that form which becomes of a nature to cause distress or disturbance to the patient. That may be due to the fact that the edema developes in the confined space where there is not room for it, such as the pleural space. It also may be due to the excessive amount of fluid in the type of patient we speak of as having anasarca. This is the form of edema that particularly interests the patient and from which relief is sought. In other words, the second type of edema that requires treatment.

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*Read before the Kentucky Medical Association, Paducah, October 5, 6, 7, 8, 1936.

Of the various forms of edema mentioned there are three types that ordinarily require specific treatment directed towards the decrease or removal of the edema over and above the treatment of the fundamental cause of the edema. In the other conditions, treating the underlying cause is sufficient to bring about the disappearance of the edema and so it does not require any specific treatment.

The three forms of edema that require specific treatment are the circulatory forms, both cardiac and the hepatic group and the type of edema that results from renal lesions are the so-called renal edema. Let us discuss the cardiac or circulatory type.

What can be done in the way of treating this particular form of edema? Obviously, the first thing is to treat the cardiac condition as well as we know how, which requires bed rest, diet, digitalis, restriction of fluid intake and for the patient who is so greatly disturbed that he cannot sleep, an adequate dose of morphine or codeine at night.

I realize that some physicians object to the use of opiates in some of these conditions. I believe they should be given very cautiously. On the other hand, I think it far more hazardous for the patient to have restless nights than moderate doses of opium.

I think this is all that is required in some of these patients with this form of edema.

However, there is a definite group of these patients in whom that does not suffice and something must be done to eliminate the accumulated fluid. It is particularly in this type of case that confined edema causes marked disturbance. The patient with cardiac circulatory edema is very prone to develop a hydrothorax.

The best way to treat these patients with fluid in the pleural cavity is to remove it mechanically by tapping the chest and carrying this out early in your treatment. Some recommend this procedure if there is but a moderate amount of the fluid.

The reason for carrying out the treatment so promptly is two fold. First, removing the fluid brings great comfort to the patient. Second, it is the more satisfactory way of getting rid of the fluid. Other means of getting rid of the fluid in other parts of the body are not so successful for removing same as from the pleural cavity.

The next thing that we will add to our therapy of the patient with cardiac circulatory edema beyond what I have already described, is the use of diuretic drugs. Here let me say that the time to give diuretic drugs is early in the morning so the patient may get as much results from the drug as possible before he is ready for sleep at night. You do not want to disturb his sleep by frequent urinations during the night brought about by your method of treating the case.

The second thing about diuretic drugs is, that it is wiser to give them intermittently than continuously. I mean by that to give them early in the morning and not repeat until the first, second or third morning as the case may require. We have a considerable variety of diuretic drugs that work in patients with cardiac circulatory edema. Some have certain advantages while others have disadvantages as far as the group goes.

There is a group known as the xanthine diuretics, namely: theophylline, theobromine and various salts of other drugs. The ones most generally used go under the trade name of theocin and diuretin.

The advantages of this group is that they work when given by the mouth. Also it is easier and more satisfactory to give the patients drugs by the mouth than by another route. The disadvantages of these diuretics are that in certain cases they are not efficient.

Therefore, they have become undeservedly unpopular because of the very generally growing use of the mercurial diuretics.

On the whole these are more powerful agents in removing fluids than the xanthine diuretics. I think it wise in managing a cardiac case with edema (unless the edema is excessive in amount) to try out xanthine diuretics. There is further advantage in the diuretics of this group. They require no specific preliminary treatment to make them effective. This is not true of mercurial diuretics. You can give xanthine diuretics if you think their use is justified when you first see the patient. The mercurial diuretics need a day or two of delay while you are preparing your patient for its administration.

The dose of one of the xanthine diuretics, Theophylline or Theocin is four to seven and one-half grains. Give one dose early in the morning and possibly repeat two hours later.

Another of this group is diuretin. The dose is the same as Theocin and should be given early in the morning. Theocin and diuretin both as a rule give satisfactory results.

In regard to the mercurial diuretics, remember first their route of dosage is a parenteral route. They do not work when given by the mouth. That is a disadvantage. Secondly, they are ineffective in many patients until the reaction of the plasma of the blood and the tissues are shifted over in the direction of acidity. Consequently, to be effective they should be preceded for two or three days by a drug that will so shift the reaction.

Ammonium chloride, nitrate and sulphate are quite satisfactory to produce this shift and all are diuretics if given in large doses, say 45 to 90 grains daily, although 150 grains daily are not considered too much at Mayo Clinic. However, their use should not continue over too long a period, as they might have a tendency to produce some renal irritation.

Dr. Marshall N. Fulton, Boston, states it is the shift towards acidity that is the important factor in preparing patients for Mercurial Diuretics. Any drug that will shift your patient toward acidity will be effective. Be careful and do not give some of the alkalies at the same time you are giving such drugs as will produce this shift.

There are three excellent mercurial diuretics on the market. They are salyrgan, mercupurine and novasurol. Some are claimed to be more toxic than others. Personally I have never used mercupurine or novasurol. Salyrgan has worked well in most of my patients and I have never experienced any toxicity either during or after its administration.

Finally in the question of the management of these patients with circulatory cardiac edema we may find that all the methods I have mentioned up to the present are not sufficiently effective. Then we must resort to further mechanical drainage of the fluid. That is, remove the ascitic accumulation by abdominal tap and drain the subcutaneous tissue by the use of Sauthey tubes.

Here I would say a word regarding the Sauthey tubes. Recently there has been an improvement in these tubes that makes them superior to the old ones which have been in use since 1877. For a description of the tube I would refer you to an article in the May 30, 1936 issue, page 1895, American Medical Journal, by Dr. Clifton B. Leech, Providence, R. I.

As to the treatment of renal edema the xanthine diuretics are almost entirely unavailing as they give no good effect.

The mercurial diuretics, as a rule, are effective and are entirely safe notwithstanding the fact that the patient has a damaged kidney and mercury theoretically is a kidney poison.

The mercurial diuretics in the human being cause little or no irritation of the kidney. It is said in perfectly normal animals the same drug will produce an albuminuria.

In the patients who do not respond to the mercurial diuretics, some recommend giving urea in large doses, say, sixty to ninety grains, or four or five hundred cc of 15 per cent solution of gum accacia intravenously is recommended. Mild chloride of mercury, compound jalap powder and magnesia sulphate by mouth are beneficial in some cases.

Like cardiac circulatory edema we should restrict the intake of fluids to slightly less than the output in order to assist in eliminating the accumulated fluid.

Finally in regard to the third type of edema I spoke of as requiring treatment, namely: that due to portal obstruction generally from cirrhosis of the liver, this is not as amenable to treatment as the other types.

The xanthine diuretics have no effect. The mercurial diuretics have some effect but not so striking as in cardiac circulatory and renal edema. Occasionally they do work sufficiently to remove the ascitic fluid. In the majority of these patients with portal obstruction mechanical removal of the accumulated fluid is necessary. In some of the cases after aspiration and the administration of mercurial diuretics as I have described above is sufficient to prolong the interval before it is necessary to aspirate the abdomen again and that is the therapeutic usefulness in this type of case.

Lastly, may I leave this impression about diuretics from the standpoint of comfort to your patients. Give them early in the morning in the hope that the desired diuretic effect may be obtained by the time the patient is ready for sleep. There are many other drugs recommended as being useful in the different types of edema of which I shall not take the time to mention. I have only tried to outline briefly my idea of the management of these different types.

DISCUSSION

George A. Hendon, Louisville: Perhaps some of the members may recall that I exhibited for your inspection at the meeting in Louisville last year a simple device for the extraction of fluids from the human body, and we have had, in conjunction with our internists friends, quite a rich experience with the use of the apparatus since it was shown. We have been able to produce the most astonishing results that I have ever witnessed from any therapeutic measure. By the simple insertion of a retention catheter through the urethra and into the bladder and attaching this simple apparatus, we have been able to extract astonishingly large quantities of fluid; we have been able to get as much as 1000 cc. a day in excess of the fluid that was ingested by drinking. We have never restricted or limited the intake of fluid, but have been careful to measure the intake and balance it against the output, I have reduced edematous patients almost to skeletons. On one occasion we reduced the weight in a cardiac case as much as forty pounds in ten days.

The very peculiar phase of the effects of the use of this apparatus is that the increased flow of urine continues even after the instrument has been detached. By means of its suction effect applied from the bladder through the ureters into the pelvis of the kidney, it appears that the kidney function is stimulated, and under the influence of that stimulation the kidneys continue this increased activity for a period of time. We have not been able to follow our cases long enough to know just how far this goes.

We have never tried it in hepatic ascites, but in the other forms of edema we have had most astonishing results. I just sent a patient home last week from whom in three days we took 3000 cc. more than she ingested each day. It is well borne; patients do not suffer any particular disturbance or irritation and I have kept it going as much as three weeks. By irrigating the bladder every day at least once with a boric acid solution we keep the bladder and catheter clear of mucus and any other form of obstruction.

I regard this as a diuretic par excellence. One can achieve these results without exposing the patient to any possible ill effects of medicinal diuretics. When it comes to unloading the system of water there is no medical diuretic that can possibly compare with it, I am recommending it for your adoption and your employment, if you should see fit to use it.

F. M. Travis, (in closing): Since the completion of this paper there has been a new mercurial diuretic added to our list in the form of a rectal suppository, mercurine. Dr. Fulton, of Boston, to whom I refer in this paper, reports in the New England Journal of Medicine its use on twenty-five cases. He reports very good results. His results have been in keeping with the parenteral mercurial diuretics; it has to be administered parenterally. The only objectionable feature he has found to it is some discomfort in a few of these patients, a burning sensation in the rectum from fifteen to thirty minutes after its administration. He claims this drug is five times stronger than one cc. of salyrgan. In other words, it contains 500 milligrams to the suppository. It is mixed with cocoa butter and has none of the xanthine diuretics in it.

It was John Hunter, founder of experimental and surgical pathology, himself a victim of angina pectoris, who gave voice to the plaint, "My life is in the hands of any rascal who chooses to annoy and tease me."

FRACTURES OF THE ELBOW*

RICHARD T. HUDSON, M. D., F. A. C. S.

Louisville.

Fractures of the elbow constitute such a large percentage of injuries of the upper extremity, especially in children, that I feel they should receive more attention from the medical profession and each type of injury should be carefully differentiated, as no one method of treatment suffices for all of them.

Under the proper conditions, I believe more open reductions should be done if the best functional results are to be obtained. It is truly remarkable to me the restorative powers that nature has in some of these injuries, particularly in children.

However, the prognosis should always be guarded.

The elbow is a complicated joint, made up of the humerus, radius and ulna and allows not only flexion and extension, but also supination and pronation.

It should be remembered that the lower articular end of the humerus is not truly transverse but oblique and also curves forward in relation to the shaft at about a 45 degree angle.

A good knowledge of the X-ray appearance of the normal elbow of both children and adults is essential and if one is doubtful of the type fracture, it is well to make a film of the uninjured elbow.

The epiphyseal lines are so prominent and there is so much cartilage in proportion to the bone in children, it is often very difficult to tell the extent of the fracture and position of the fragments and one is surprised at the size of the fragments at open operation.

In most fractures of the elbow I think it is well to attempt a closed reduction, but if reposition is not satisfactory open reduction should be done immediately.

However, there is one type of fracture of each of the three bones where open operation is the rule rather than the exception. These include condylar fractures of the humerus with rotary displacement, fractures of the head of the radius with displacement and fractures of the olecranon of the ulna with displacement.

Let us consider the fractures more in detail.

The common fractures of the lower end of the humerus may be divided as follows:

1. Supra-condylar.
2. Condylar, including:
    (1) "T" fractures
    (2) "Y" fractures.

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3. Comminuted.
4. Epicondylar.
5. Epiphyseal separations.

1. Supra-condylar fractures of the humerus are most common type in childhood, and unless properly handled may lead to dire results. If the fracture is seen early and there is little swelling, closed reduction should be done under general anesthesia.

This is usually easily accomplished by hyperextension to unlock the fragments followed by strong traction and flexion. The elbow is put up in the Jones position of acute flexion and this position maintained by moulded anterior and posterior plaster splints. The pulse should be watched carefully and if circulation is not satisfactory or if there is much pain, the flexion should be reduced. Do not keep the elbow in acute flexion, if the fracture has not been successfully reduced. This is the type fracture that may lead to the dread Volkmann's ischemic contracture.

If the injury is not seen for several hours and there is marked swelling it is better to disregard the fracture and put the arm up in over-head traction in extension and not attempt reduction until the swelling has disappeared, usually four or five days.

In old healed cases with deformity, it may be necessary to do a supra-condylar osteotomy to correct the malunion.

2. Condylar fractures including "T" and "Y" fractures.

Condylar fractures, while less common than the above type, are serious injuries and unless properly reduced may lead to non-union or delayed ulnar-nerve palsy. Dr. Philip D. Wilson of New York, who has written a most complete and enlightening article on "Fractures of the Lateral Condyle of the Humerus in Children," discusses these points in detail and concludes that this type fracture should practically always be treated by open reduction and suture with silk or with a nail or screw.

In the cases I have operated upon of this type I have been fortunate in being able to reduce the fracture and maintain the fragments in position by putting the joint in acute flexion, without internal fixation.

A moulded posterior plaster splint is then applied in acute flexion.

"T" and "Y" fractures of the lower end of the humerus are usually adult injuries and frequently lead to poor end results regardless of the type of treatment used. If there is marked displacement of the major fragments or much comminution open reduction and internal fixation should usually be employed. These fractures are sometimes treated by traction by passing a Kirschner wire through the olecranon and putting the elbow in right angle flexion.

"T" and "Y" fractures constitute individual problems and the age of the patient, condition of the patient, and the condition of the arm must be taken into consideration before a method of treatment is decided upon.

3. Comminuted fractures of the lower end of the humerus, especially when compound, present a still greater problem. Recently I have treated two such fractures by closed manipulation and the application of an especially heavy cast at the elbow. This is a method devised by Dr. Caldwell of Cincinnati, for the treatment of fractures of the shaft of the humerus.

It is important that the elbow be put in exactly right angle flexion and the cast suspended from the neck by a band to the base of the thumb. This maintains a constant traction on the forearm while the patient is in an upright or semi-upright position.

I am still loathe to operate on a compound joint fracture if the wound is small and prefer closed manipulation and application of a cast in a good functional position. If the compound wound is large a thorough debridement and copious irrigation of normal saline, replacement of the fragments, and skin closure is usually the best procedure.

4. Epicondylar fractures are usually slight injuries and require only a cast for three to four weeks.

5. Epiphyseal separations of course occur in childhood and can usually be treated by closed reduction and a cast in acute flexion. However, if reduction is not satisfactory as in cases of separation of the capitellar epiphysis with displacement, open operation, with or without internal fixation should be done.

FRACTURES OF THE HEAD OF THE RADIUS

These are usually adult injuries and not infrequently occur when the elbow is dislocated or accompany fractures of the upper end of the shaft of the ulna.

The treatment depends upon the size of the fragment and amount of displacement. If there is no displacement, a plaster cast is applied in flexion at least to a right angle, or in acute flexion if possible.

If there is marked displacement, and reduction cannot be effected by flexion or if the fracture is old, excision of the fragment or whole head of the radius gives the best functional end results.

FRACTURES OF THE OLECRANON OF THE ULNA

This is a fracture of adults.

The treatment of this fracture too depends upon the displacement. If there is no displacement a cast is applied in right angle flexion for five to six weeks, followed by a sling for a week to ten days and physiotherapy.

Fractures with displacement require open operation and suture.

It has been my practice to drill holes through the fragments transversely and suture them with No. 2 chromic catgut.

Sutures of fascia lata are advocated by some surgeons and have the advantage of earlier motion.

Dr. Charles Rhombold, of Wichita, Kansas has devised an ingenious operation using two narrow strips of fascia from the triceps muscle, being left attached at the lower ends to the upper fragment and passing through holes bored in the lower fragment.

Let me say in closing, I do not believe any extensive fracture about the elbow heals in less than six to eight weeks and I do not attempt motion until I am confident there is no chance of displacement of the fragments.

Frequently, children's parents are concerned when a full range of motion is not restored to an elbow in a week or two after removal of the splints, but often it requires eight to ten weeks for them to regain full function and is nothing at which to be alarmed.

CONCLUSION:

1. More open reductions are required to restore full function in fractures of the elbow than is generally supposed.
2. Always regard fractures of the elbow as serious injuries and give a guarded prognosis.
3. Although nature is very kind in overcoming obstacles the ultimate end results depend upon the anatomical reposition of the fragments.

DISCUSSION

J. Gant Gaither, Hopkinsville: I have had three cases in which the results were sufficiently bad to require additional treatment. Most of these occurred in children. Some of the cases had as small a range of motion as forty or fifty per cent. I was impressed with two cases which I think it might be well to call attention to as a matter of prevention. These were new types of fractures to me, in that they came as a result of the use of the automobile. Two of these patients had been driving with the elbow resting outside of the window in the drivers position. In my part of Kentucky we have a number of coal trucks with long and wide overhanging bodies. These two men, at different times, had had the misfortune to have one of the overhanging sills of a truck strike the elbow as it projected out of the driver's window, giving a fracture by direct force.

In addition to these two fractures of the elbow, one patient of mine also had his entire arm out and the arm was amputated instantly by a passing truck. I think it might be well for us to advise people against driving constantly with one arm hanging nonchalantly out of the window, as it is a very possible thing that they may lose the arm or have a severe fracture.

The matter of handling them by open operation or closed method is, of course, a matter of individual opinion. I probably do not see the type of injury that Dr. Hudson sees as a specialist. He probably sees more that need open reduction. In my own experience I would be inclined to be on the conservative side about it, because of the very wonderful power of the arm to take care of itself, and from my own experience I think certainly the conservative side will serve very well for a long time to come.

DIAGNOSIS AND TREATMENT OF LESIONS OF THE EXTERNAL MALE GENITALIA*

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After commencing to write a paper under the title of "Diagnosis and Treatment of Lesions of the External Genitalia" which I first submitted to the program committee, I found that in order to cover all the subject matter in the brief time allotted to it, I would have to spread my facts so thin that I could well qualify for the definition of the general practitioner who knew nothing about everything rather than the specialist who knew everything about nothing. For that reason I had to eliminate the disorders of the female sex completely from my discussion and confine my remarks largely to infectious conditions of the penis transmitted principally through sexual intercourse.

These ulcerative and papular lesions located largely on the glands and coronary sulcus, resemble one another to such an extent that their diagnosis by physical and symptomatic characteristics alone is impossible, but through the aid of these clinical findings plus certain laboratory procedures, their identity can usually be determined with a high degree of certainty. However, before passing to a more detailed consideration of these infections, I feel I should mention a few other pathologic processes that may involve this region of the body.

Many of the generalized skin conditions, such as Psoriasis, Lichen Planus, Pemphigus and Erythema Multiforme often give rise to skin lesions in this area. Some of their cutaneous manifestations are typical in appearance while others are atypical due to the special factors of heat, moisture and increased glandular secretions encountered here.

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Certain drug eruptions, notably those due to phenolphthalen, the universal laxative, and antipyrin may appear here. They are characterized by simple discolorations or papular lesions of the skin or by vesicular or bullous eruptions that cause a complete exfoliation of the skin covering the glans, leaving a raw, oozing, denuded surface. Fortunately in both of these types of skin conditions, more typical lesions elsewhere or a history of taking drugs will generally enable one to make the correct diagnosis.

Often pediculus and scabetic infections give rise to papular lesions on the prepuce, glans or skin of the shaft, but close inspection of the pubic area will enable one to quickly make a diagnosis of the former, while in the latter infection it is important to remember that prurigenous papules in this area plus a definite history of increased nocturnal itching will often be the most important clues to a correct diagnosis of Scabes, particularly in cleanly individuals.

There are many etiologic factors that may be responsible for an inflammation of the glans penis. Under balanitis simplex are listed many causes that produce primarily an oedema and swelling of the prepuce with secondary inflammation of the glans as the result of the retention of urine and glandular secretions beneath the foreskin. In cases of certain metabolic disorders, the increased sugar, phosphate, urate or creatinine content of the urine may further aggravate this irritative process. In diabetic patients the effect of glycosuria may be further complicated by a yeast or monilia that frequently develops in the presence of additional quantities of sugar in the urine.

Other conditions that directly give rise to a similar inflammatory process involving the glans have been grouped under the heading of balanitis vulgaris. Such causes may be mechanical, chemical or bacterial. Mechanical injuries to this area are rare but chemical injuries are exceedingly common. They may be produced by iodine, lysol, mercury, silver nitrate, iodoform and numerous other drugs that are used in washes, compresses or irrigations. At times certain chemical compounds in the rubber used in the fabrication of condoms produce a marked irritation of this type.

Bacterial balanitis may result from yeast or monilia infections or develop secondary to a gonorrheal urethritis. In rare cases a diphtheritic infection may produce such an irritation, while infrequently the primary lesion of syphilis may appear as a diffuse balanitis rather than a localized erosion. Joseph Moore has estimated that this atypical type of primary manifestation occurs in about 2 per cent of all cases.

In both of these classes of balanitis the most important contributing factor is a long foreskin, for beneath this outmoded appendage, secretions and excretions may be retained and accumulate, and bacteria that would otherwise be harmless on normal skin, find a favorable nidus in which to multiply and flourish and invade the macerated defenseless epidermal covering.

In addition to these immediate disorders that may arise beneath the foreskin, the persistance of irritation in this area frequently leads to the development of leukoplakic patches which if untreated will in a considerable percentage of cases ultimately undergo carcinomatous degeneration.

Because of these facts it seems to me that in spite of a growing hedonistic doctrine that decries the indiscriminate amputation of the prepuce, the indications for circumcision of most male infants far outweigh any reasons that might be raised against them.

The characteristic appearance of a typical Hunterian chancre is familiar to most of us. It can best be described as a single, painless erosion rather than an ulcer, which develops in most instances from ten to twenty-one days after exposure. Its margin is sharply defined and often outlined by a hemorrhagic thread-like border. Its base is clean and often slightly convex and covered with a faint grayish pellicle or flesh colored granulations from which exude a serous rather than a purulent exudate. Around and beneath the erosion a zone of dense cellular infiltration gives rise to the cartilagenous-like area surrounding it.

This description applies only to the typical chancre, but many primary syphilitic lesions are far from typical and may appear as small, painless, non-indurated erosions suggesting herpetic lesions, as fissures in the skin, or as destructive phagadenic ulcers. It is for this reason that Dr. John Stokes has stressed the fact that the diagnosis of genital lesions is a laboratory rather than a physical or morphologic problem.

In contrast with the chancre, the site of innoculation of the Ducrey bacillus is more apt to develop rapidly into an ulceration rather than an erosion, that is irregular in outline with ragged edges, and a base covered with a dirty, grayish membrane and purulent exudate. These ulcers are often multiple and are generally extremely tender and painful on palpitation.

In the differential diagnosis of genital ulcers, the possibility of an infection due to Vincent's organisms should be kept in mind.

This infection is characterized by the development of an acutely inflammatory, painful, single, rapidly spreading ulceration which is covered with a necrotic, foul smelling membrane and is usually associated with a moderately painful enlargement of the inguinal glands. If untreated this infection often rapidly progresses to the stage of gangrenous balanitis.

Granuloma Inguinale, as the name implies, is most apt to develop in the inguinal region, but its primary lesion, which is a pea sized papule that rapidly breaks down with the production of a small ulcer, may appear on the glans or shaft of the penis as well as in the groin.

As the infection progresses, the ulcer spreads peripherally, the advancing margin appearing as a firm, rolled up, elevated, border, while the central zone heals with the production of firm, dense, white scar tissue. Glandular enlargement plays no part in the appearance of these lesions which are characterized by their progressive spread and extensive tissue destruction.

Finally the diagnostic problem is further complicated by a newly recognized disease which has assumed a place of marked prominence in recent years. This condition was first described by Nicolas & Favre in 1913 and spoken of at that time as climatic or tropical Bubos. It is now known as Lymphogranuloma Inguinale or Lymphopathia Venerea. It was formerly believed to occur only in the tropics but in the past decade, cases of it have been reported from practically every country in the temperate zone.

Its primary lesion, which may appear from three days to three weeks after sexual exposure, it usually small and painless and can appear in several forms. It may occur as a small ulcer on the prepuce or glans, as a pinhead to pea sized papule or as single or multiple pseudo-herpetic lesions. In rarer instances it may manifest its presence as a urethritis.

Because of their small size, painless nature and brief duration, the original lesions are often overlooked and the presence of the infection is not suspected until the inguinal glands begin to swell and become painful. Just prior to the glandular enlargement, the patient may suffer from slight headaches, anorexia, lumbar pains and general malaise.

It is believed at present that this infection is due to a filterable virus and that shortly after inoculation occurs, it invades the entire body. Usually in the male, the glandular involvement rarely extends beyond the Inguinal glands, but in the female, due to the difference in the drainage of the genital organs, the perirectal and deep pelvic glands often become involved giving rise to the rectal strictures that were formerly attributed to syphilis.

Were it not for our present day laboratory methods, the differential diagnosis of these conditions by means of their physical and clinical characteristics alone would be in most cases a hopeless task, but thanks to the modern microscope and its dark field modification, bacterial stains of many types, systemic and local complement fixation, and precipitation tests, tissue examination, and subcutaneous and intracutaneous reactions, the correct diagnosis can usually be determined with a high degree of certainty.

The proper use of the dark field microscope is not difficult to learn, but the correct interpretation of what it reveals predicates a thorough knowledge of the organisms that may be encountered. Noguchi has described no less than eight species of Spironema and five of Treponema that may occur on the mucous and cutaneous surface of the body and he has shown that three of them are constantly present on the male and female genitalia.

In cases where genital erosions or ulcers have been previously treated with antiseptics it may be necessary to use wet compresses of normal saline on the lesion for two or three days to remove the effect of the antiseptic before a satisfactory dark field examination can be made or make a dark field examination of serum aspirated from one of the associated glands. It is interesting to note that a local Kahn and Wassermann can be done on 0.1 or 0.2 cc of serum collected in a capillary tube from the cleaned surface of the lesion and that the previous application of antiseptics will not affect the accuracy of the test which is practically 100 per cent efficient.

Fresh smears stained with almost any bacterial stain will show the coarse, loosely wound spirals of Vincent's spirochete and the associated fusiform-bacillus, or the bacillus of Ducrey which appears as a short, thick organism with rounded ends and lateral indentations. It is gram negative when stained with gram stain and usually the ends of the bacillus stain more deeply than its central part. It occurs rarely within pus cells, but is often seen within epithelial cells.

Smears made from scrapings taken from just beneath the surface of lesions suspected of being Granuloma Inguinale will show in positive cases the so-called Donovan bodies or inclusion bodies which show up as short, thick bacilli 1 to 2 microns long which may be present within or outside of the leucocytes. As the organism responsible for Lymphogranuloma Inguinale is believed at present to be a filterable virus, it is not demonstrable by present microscopic methods.

The other methods, such as complement fixation tests and precipitation tests used in the diagnosis of syphilis are too well known and too complicated to discuss here, but they are invaluable aids in making a diagnosis of this infection.

Until recently the only other method available for establishing or disproving a diagnosis of chancroidal infection was by means of intracutaneous sensitization test known as the Ito Reenstierna test, done with Dmelcos vaccine which consists of several different strains of killed Ducrey bacilli, but this test has never been available in this country due to certain government restrictions regarding the importation of this vaccine.

Recently, however, Cole & Levine reported an investigation they had made with inactivated diluted pus removed from the bubo of a known case of chancroidal infection. One-tenth of a cc of this material is injected intracutaneously in suspected cases and then the test is read in twenty-four hours. They have found the reaction to be about 99 per cent correct as well as sharply specific. The reaction does not become positive until from five to nine weeks after the infection appears, but once it has become positive it often remains permanently so.

Exactly the same type of test was developed by Frei and Hoffman some years ago to aid in the diagnosis of cases of Lymphogranuloma Inguinale. The test is read twenty-four or forty-eight hours later. A positive test consists of the development of a red, indurated papule, one-half to two cm in diameter. This papule may go on to vesicle or pustule formation and rarely to the gangrenous stage. It is a highly specific test that does not become positive until ten to twenty days after the onset of the infection, but persists for years after the infection has cleared up. It should be kept in mind that in cases of Lymphogranuloma Inguinale associated with syphilis, the Frei test may be masked, the so-called anergic state, until the syphilis has been gotten under control and conversely in the acute stage, cases of Lymphogranuloma Inguinale may give a falsely positive Wassermann reaction.

Since the development of the original Frei test it has been found that a specific antigen can be prepared from the brain of monkeys infected with the virus of Lymphogranuloma Inguinale and this method promises to supplement our present inadequate supply of Frei antigen.

The correct treatment of Syphilis has been too well established to justify a discussion here, but I would like to re-emphasize the fact that no antisyphilitic drug should ever be administered to a suspected case until an unquestionably positive diagnosis has been made. The only exception to this ironclad rule occurs in those cases where a thorough and exhaustive laboratory investigation has failed to establish a diagnosis. In such cases it is justifiable to give one small dose of Neo Salvarsan and follow it by repeated Wassermann or Kahn tests, the so-called provocative test.

Once antisyphilitic treatment has been begun and the "die has been cast," treatment should not be discontinued until the patient has had the theoretically minimum amount of treatment which means at least thirty injections of arsenic and forty-five injections of bismuth or mercury. There is no such thing as "just a touch of syphilis." The patient has or hasn't it, and if it is assumed that he has, his treatment should be as thorough as is possible through modern therapeutic agencies.

The treatment of chancroidal infections may be considered as prophylactic and therapeutic. The former consists of the use of abundant soap and water immediately after coitus. If this is done further therapeutic steps will rarely have to be taken as the bacillus of Ducrey thrives only in the presence of dirt, and soap and water serve as a highly efficient form of antiseptic treatment for this organism. However, once the infection has developed and been diagnosed, the patient should be put to bed if possible and immediate hot soaks and irrigations with a 1:400 potassium permanganate or a 1:2000 bichloride solution commenced. They should be given for fifteen minutes every two hours and between times the ulcers should be painted with a 5 per cent solution of iodoform in ether, or covered with a paste of iodoform powder mixed with a 1 per cent aqueous solution of phenol, protecting the surrounding tissue with boric acid ointment. In the later stages, strips of gauze moistened with the permanganate or bichloride solution and inserted between the prepuce and glans are efficient and comfortable.

In those cases where a marked swelling of the prepuce associated with phimosis occurs, a dorsal slit should never be made except as a last resort. This surgical procedure in such infected cases is always fraught with the danger of a secondary destructive Phagedena. It is far wiser to employ hot compresses and irrigate the preputial sac repeatedly with hot potassium permanganate solution using a rubber ear syringe. Keeping these patients in bed during this treatment will generally result in the rapid resolution of even the most serious cases. Where dorsal slits are done the same soaks and irrigations should be continued during healing.

In the modern scheme of chancroidal therapy, cauterization with heat or chemicals is rarely resorted to as this process greatly predisposes such cases to bubo formation. Putting these patients to bed with complete rest the moment the inguinal glands become at all tender or swollen plus intensive local treatment of the ulcerations will minimize the chances of this complication. Once the glands have begun to swell their irradiation with small exposures of filtered X-ray plus hot boric acid compresses will often prevent their progressing to the stage of suppuration. Intramuscular injections of sterile milk or foreign protein given every three days will often aid in effecting this same result.

Abroad the intravenous administration of Dmelcos vaccine, given every other day, has been used for sometime in the treatment of chancroidal infections, but recently David Gorlin of New York has shown that the same results could be obtained by intravenous injections of gonococcus vaccine or staphylococcus vaccine. In his series of cases, he showed that by intravenous therapy the average duration of this disease could be reduced to about two weeks in comparison with his control cases which were treated only locally and lasted an average of six and one-half weeks.

In those unusual cases of Vincent's infection involving the penis, the most vital therapeutic factor is the prompt recognition of the disease and the immediate institution of treatment, for if treatment is delayed the erosive balanitis may progress to the gangrenous stage with resulting destruction of large areas of tissue which may even spread to the adjacent portions of the abdomen and thighs.

Continuous irrigations of the infected area with half strength hydrogen peroxide solution or saturated solution of sodium perborate plus intravenous injections of Neoarsphenamine will usually produce a prompt cure of the condition.

The treatment of Granuloma Inguinale is by no means all that could be wished for. In the very early cases complete surgical eradication of the involved tissue or its thorough destruction with the actual cautery is indicated, but where the infection has progressed to such an extent that such treatment is not practical, it is necessary to resort to superintensive doses of X-ray to the active advancing borders of the lesion plus the administration of such antimony compounds as tarter emetic, sodium antimony, thioglycollate or fuadin. The first two are given intravenously and the last intramuscularly. Treatment should be continued for several months after the condition has cleared up as this disease has a marked tendency to recur even after apparent cure.

The discővery and development of the Frei test has put the diagnosis of Lymphogranuloma Inguinale on a reasonably firm basis, but as yet our treatment of this infection leaves much to be desired.

Because of the small size and evanescent nature of the primary lesions, the infection is rarely recognized until it has progressed to the stage of glandular involvement. At this time it has apparently become a systemic infection with the inguinal adenopathy as its outstanding feature. The extensive involvement of the inguinal glands which rapidly break down with the formation of multiple fistulous tracts and much scar tissue, produces a serious blockage of the lymphatic drainage frequently resulting in elephantisis of the penis, scrotum and vulva. In the case of the latter, surgical removal of the greatly hypertrophied labiae occasionally becomes necessary.

The intravenous and subcutaneous administration of the Frei antigen as a therapeutic procedure has recently been tried by many investigators. Some have reported encouraging results, but generally speaking, it has been found to be far less effective than it was originally hoped it would be.

In the early stage of glandular enlargement, treatment with Roentgen Rays may prevent the development of the suppurative stage. The same antimony preparations employed in the treatment of Granuloma Inguinale seem to be the most efficient drugs we have at present for its treatment. Once suppuration has occurred, rest in bed and the promotion of free drainage of the glands are indicated. Because of the possibility of troublesome oedema of the legs developing if all of the involved inguinal glands are removed, partial excision of the glands has been found to be therapeutically as effective and at the same time largely eliminates this danger.

There is still much work to be done in the treatment of this recently recognized disease and because of the steadily increasing number of cases that are being encountered it is hoped that some effective method of therapy will be discovered for it in the near future.

In this review of the pathologic processes involving the external genitalia, I have purposely omitted a number of uncommon diseases that may occur and included only the more frequently encountered conditions that often confront and at times confound the general practitioner in the course of his daily ministrations.

DISCUSSION

Carey C. Barrett, Lexington: There have been a few points brought up that I would like to discuss, the first of which is syphilis. The essayist has rightly emphasized the point that the diagnosis of primary syphilis is always a laboratory procedure, never a clinical procedure. It is never permissible to treat a patient for primary syphilis on suspicion. Such a procedure is almost criminal. One must wait until he has absolute and definite laboratory evidence of the disease before treatment is instituted.

The essayist might have brought up the subject of herpes progenitalis, a very common disease of the penis. Herpes progenitalis is a recurrent eruption. It frequently follows sexual intercourse, probably due to trauma, and for this reason the question of diagnosis often arises in differentiating this disease from primary lues or chancroidal infections. Herpes progenitalis is a vesicular disease; chancroid and chancre never are. There is usually a history of recurrence of the eruption on the penis. However, herpes progenitalis I feel is frequently a predisposing factor in syphilitic infection. It gives that small break in the skin which is a great aid in acquiring syphilis.

Another disease which is probably more important from this standpoint is scabies. Scabetic lesions on the glans and on the shaft of the penis are a frequent predisposing factor in the acquisition of syphilis, and frequently those patients will have multiple chancres on the genitalia.

I am sorry that the essayist did not have time to discuss the treatment of chancroid. I had the opportunity of reading his essay, and one of the things which he says in it is that circumcision is never indicated in the treatment of chancroidal infections because such a procedure may lead to violent and rapid spread of the chancroidal infection and cause what is known as phagedena. This is the universal teaching.

Some years ago I had the opportunity of working in Dr. Cole's clinic at the Cleveland City Hospital where we saw great numbers of chancroidal infections, and it was the practice there, and it still is the practice, to circumcise all such cases. Our results were excellent. I do not think that I ever saw a case of phagedena following such treatment.

I think that the hospital days in these cases of chancroid were considerably shortened. I think the number of buboes which appeared were fewer in number by this method of treatment than by the ordinary accepted treatment.

PRESENT-DAY MANAGEMENT OF SURGICAL LESIONS OF THE STOMACH AND DUODENUM*

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Lexington.

During the past eleven years I have operated upon 412 patients with gastric and duodenal lesions distributed as follows: Duodenal ulcer, 297; gastric ulcer, 32; cancer, 70; gastrojejunal ulcer, 11; and pyloric stenosis, 2. There were 329 males in this series, and 83 females. The operations done were: Gastro-enterostomy, 221; pyloroplasty, 85; posterior Polya resection or Billroth 2; resection, 35; excision and gastroenterostomy for ulcer, 8; and a miscellaneous group of operations ranging from Rammstedt's operation for pyloric stenosis through the one stage Billroth operation, Schumacher resection, and the various maneuvers applicable to gastrocolic and gastrojejunocolic fistula cases.

A study of this group of cases seems to me to form a background sufficiently stable to express some opinions on the relative merits of certain surgical procedures, their technical application and end-results, as well as to debate with some confidence a number of the other problems which occur in this particular field.

Over the past two decades the literature on gastric and duodenal ulcer has grown to such voluminous proportions that it is impossible to keep accurate pace with it except at the expense of other medical reading.

Both the internist and the surgeon have been guilty in the past of entering into an acrimonious debate on the merits of medical and surgical treatment, which has not rebounded entirely to the credit of either and which principles have been overlooked. The surgeon has given too much time to discussions of technical details and operative procedure, while the medical man has taken the credit for some cures that nature has wrought; has considered as favorable results cases treated as ulcers where the diagnosis was inaccurate; and has refused to recognize that there is mortality which follows medical treatment just as surely and perhaps just as great as that which follows surgery. Certain it is that in the discussions of the many sides of the peptic ulcer problem, too frequently attention has been directed to the local lesion without recognizing that it is in reality a manifestation of a general ailment and that treatment of the ulcer alone should be only supplementary to attempts at treating whatever underlying causes produced it.

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*Read before the Kentucky Medical Association, Paducah, October 5, 6, 7, 8, 1936.

Unquestionably we do not know the exact cause of all peptic ulcers, but there are factors common to all which must be considered in any regime directed toward their cure. That some of these factors are controllable and some uncontrollable has been effectively emphasized by Ochsner, Gage, and Hosoi recently in a paper which calls attention to the fact that the uncontrollable factors are in reality predisposing ones, and that they are, (1) tissue susceptibility, and (2) constitutional predisposition. Also, they called attention to the other factors which they designate as precipitating factors and yet which are controllable, namely, hypersecretion, hyperacidity, focal infection, and gastric trauma.

The well known vulnerability of certain portions of the gastrointestinal tract, and the occurrence of ulcers in certain types of individuals lend support to this hypothesis. Furthermore, it brings out the importance of individualization of treatment whether that treatment be at the hands of internists or surgeons, or both.

Is there any doubt at present that a cooperative management following an accurate roentgenologic diagnosis in the hands of a competent X-ray man yields for the patient the most satisfactory end-result and that both types of treatment—medical and surgical—have their place in this complicated clinical picture and under circumstances which make a selection of one or the other, or both, fairly accurate? Can one doubt that in the majority of instances in the beginning peptic ulcer is a medical ailment which requires surgical intervention only in the face of complications? The exception to this statement which I would make is that gastric ulcers and duodenal ulcers are not of a piece. I would disagree strongly with anyone who would treat the two similarly, but more of gastric ulcers later.

Specifically, I believe with Maes, that medical treatment is indicated in first, fresh ulcers; second, young subjects; third, those cases where the symptoms are mild and the periods of exacerbation few and brief; fourth, in the nervous, high-strung, tense, so-called ulcer type; and fifth, in all patients who have the leisure and money to make a fair trial of non-surgical treatment even though subsequently complications necessitate operation. Surgery, on the other hand, is urgently called for in first, perforated ulcers; second, obstructing ulcers; third, ulcers which bleed repeatedly; fourth, gastric ulcers in which therapeutic and roentgenologic tests leave a suspicion of malignancy; and fifth, ulcers intractable to medical regime in patients whose economic status prevents a prolonged trial.

Perforated Ulcers: There are two distinct phases of perforation which demand surgery. One is the acute explosive perforating ulcer which suddenly blows out with or without premonitory symptoms and presents an abdominal emergency demanding an immediate intervention. Here again, there is no controversy as to the indications for surgery but only as to the method applied. I feel that there has been entirely too much discussion as to the necessity of doing an immediate gastroenterostomy or not, and it has seemed to me that there are two considerations which should decide the selection of the type of operation: First, the time element; and second, local conditions such as induration around the pylorus. If an individual suddenly has a perforation of a duodenal ulcer, is operated upon within the "period of contamination," namely, the first six to twelve hours, and it is possible to excise the anterior one-half of the pylorus and do a direct anastomosis without encroaching upon its lumen to any appreciable extent, certainly this is the procedure of choice.

If induration and scar tissue formation have made it impossible to do this and there is a stenosis of the lumen, one naturally in the majority of cases, will wish to do a gastroenterostomy of necessity, but the condition of the patient and the amount of obstruction should decide the point. I have been comforted in operating upon perforated duodenal ulcers by the routine institution of a Levine tube at operation. When the pylorus is incised the tube is drawn down and put into the duodenum and the pylorus closed by suture over it so that if there is an encroachment one may still aspirate the stomach content or feed the individual through the tube if one wishes and at a later date when the patient has recovered sufficiently, consider a gastroenterostomy.

A deciding point about the extension of any surgical procedure should, I think, be the ability of the individual being operated upon to undergo extensive surgery, and all efforts should be directed toward treating the immediate emergency successfully, letting unpleasant sequelae, such as obstruction which develops in a small percentage of cases postoperatively, be taken care of as they appear.

The chronic type of perforating or penetrating ulcer usually is on the posterior wall of the duodenum, although occasionally an interior wall ulcer fastens itself onto the liver or some other viscus. These ulcers which are intractable to treatment demand surgery and the local conditions indicate the choice of procedure, whether it be a simple excision or a simple gastroenterostomy, a combination of the two, or a partial resection of the stomach.

Obstructing Ulcers: There is small dissension as to the ideal treatment of a benign pyloric obstruction secondary to cicatrical tissue due to healing of a duodenal ulcer. When nature has closed off the pylorus slowly and progressively with the result that hypertrophy and dilatation of the stomach have taken place over a considerable period of time, the ideal operation is a gastroenterostomy or a Billroth 1 resection of the pylorus with reestablishment of the continuity of the gastrointestinal tract by direct anastomosis.

These two procedures, neither of them radical, are distinctly applicable under the circumstances of obstruction, and few chronic conditions in surgery yield a more satisfactory result. The immediate drainage of the stomach is followed by a return to a physiologic equilibrium and rarely is followed by unpleasant sequelae. Particularly is it noteworthy that under these conditions the most unfortunate complication of gastric surgery, namely, gastrojejunal ulcer, very rarely occurs.

Bleeding Ulcers: That 25 to 35 per cent of peptic ulcers do bleed, and that a large number of these have recurrent hemorrhages and subsequent complications, is evidenced by the most cursory survey of the literature. It is all very well to say that the first hemorrhage does not result fatally, but this like many other absolutisms, is not entirely correct.

Patients rarely do bleed to death from duodenal ulcers, but occasionally even at the first instance they do result fatally. The exact treatment of acute hemorrhage from a peptic ulcer is still a controversy. True, very few of these hemorrhages, particularly if the patient be a young person, will prove fatal at the first bleeding. Occasionally where a large vessel is eroded on the posterior wall of the duodenum into the head of the pancreas, even a first hemorrhage proves fatal.

Surgeons recently have advocated hemorrhage as an indication for surgery soon after the first hemorrhage, soon after the second hemorrhage, or after more than two hemorrhages. Wilkie feels that after the first hemorrhage a patient should have medical treatment but if there is a recurrence, operation should be indulged in within ten days or two weeks subsequently. Finsterer regards hemorrhage as an indication for immediate surgery, comparing it to perforation. Rienhoff has wisely pointed out that hemorrhage on the posterior duodenal wall actually amounts to a posterior perforation into the pancreas and can only be benefited by surgery.

One of the most recent and interesting papers is that of Allen and Benedict who report in a series of 1804 ulcers seen on the Surgical service of the Massachusetts General Hospital over a period of twenty years, 628 bleeding ulcers. In other words, one-third of all peptic ulcers requiring hospitalization were admitted for bleeding. It is interesting to note that 40 per cent of these cases had multiple hemorrhages and that 40 per cent failed of medical management after the first hemorrhage; that 85 per cent failed after the second hemorrhage, naturally inclining these surgeons to institute surgery after the second bleeding had occurred.

Another point of interest is that these bleeding ulcers occurred in patients averaging nearly 42 years of age. Here of course, arteriosclerosis has a decided influence. Maes reports that 20 per cent of the deaths at Charity Hospital in a series of 107 consecutive deaths from peptic ulcer, were due to hemorrhage.

It is difficult to be arbitrary about operation in the face of an acute hemorrhage, and I have followed the line of teaching of most of the conservative surgeons of the day, but it seems to me that recurrent hemorrhages are a definite indication for surgery which attacks the ulcer directly, ligates the bleeding vessel, and eliminates further hemorrhage accurately. However, I am not willing to commit myself to the pronouncement that acute bleeding is an indication for immediate operation, for in the series of cases reported by surgeons who have undertaken this type of treatment, the mortality has been distinctly too high to advocate the radical measures, and certainly at present one feels justified in attempting to tide the individual over the period of initial bleeding and subsequently eradicate the source. This procedure unquestionably is safer and more conservative and I believe will result in a more satisfactory outcome than will operating in the face of an acute hemorrhage in a large series of cases.

When surgery is undertaken for a bleeding duodenal ulcer, obviously the attack must be directed toward the removal of the ulcer. Rarely are bleeding ulcers situated on the anterior wall of the duodenum, and thus curable by simple excision. Most frequently the bleeding duodenal ulcer has penetrated through the posterior wall of the bowel, attached itself to the head of the pancreas, and bored into this organ, opening a large vessel.

It is in this group of cases, and the intractable ulcers which have attached themselves to the pancreas without hemorrhage that the most radical procedures of excision are applicable. Fortunately, the intractable ulcers without hemorrhage which demand surgery represent less than ten per cent of the whole surgical group, and for this reason the higher mortality of the more extensive operations seems to me to warrant the routine utilization of less formidable procedures save only for the specific indications of hemorrhage, posterior perforation, and intractability due to induration, infiltration, and excessive callosity with their resulting secondary complications.

The one reason for my unwillingness to consider gastric and duodenal ulcers as of the same etiology is the possibility that the former may develop malignancy. Exactly what percentage of gastric ulcers do develop cancer is perhaps not pertinent, but the fact that occasionally such a transition from benignancy to malignancy does develop, is the important one. McCarty's figures of 70 per cent or more are probably too high, but the universal figure of around five to ten per cent development of malignancy is discouraging to one who is not too optimistic over the outcome of surgery for gastric cancer. Certainly, the important point is not that some ulcers end as cancer and some ulcers are always cancer, but that even the most expert clinical and laboratory diagnosis is not able to always differentiate accurately between them.

The typical history of long-standing ulcer occasionally turns out to be a cancer, and more tragically, even after the most careful methods of elimination have been indulged in, occasionally a mistake is made. One cannot estimate this accurately, but one must admit that it is a relatively low percentage.

The recent plan of Jordan and Lahey has appealed to me as being a satisfactory compromise between the surgeon who wishes to operate on all gastric ulcers as soon as they are diagnosed, and the internists who are willing to wait until a very definite diagnosis of malignancy can be made. This Jordan plan is to hospitalize all gastric ulcer cases for three weeks under ulcer regime with frequent fluoroscopic examinations and stool examinations. Three criteria are laid down for the establishment of the benignancy of the ulcer: first, it tends to diminish in size; second, occult blood must disappear from the stool; and third, there must be symptomatic relief. This plan is not 100 per cent perfect obviously, and it is admitted that occasionally even a small gastric carcinoma does give evidence under the fluoroscope, of temporary healing.

Recently in a symposium before the Gastroenterologic Section of the American Medical Association, Portis and others admitted this possibility, but it must be indeed of most rare occurrence and I feel that it does not detract much from the safety of the principle. Certainly, the percentage of small gastric cancers which heal over temporarily must be almost a negligible quantity.

Most ulcerating lesions of the stomach can be accurately differentiated by the radiologic examination in fifty per cent of the cases as either cancers or ulcers. Of the other fifty per cent we can readily accept Jordan's report of 133 cases, 66 of which were frankly cancers. Of the remaining 67, 44 healed under treatment; seven ulcers were intractable to treatment and were operated upon; in one case gastroenterostomy was done because of a stenosing hour-glass contraction of a healed gastric ulcer; two others were considered intractable ulcers but operation was not done in one case because of the patient's age and general condition, and in the other case operation was refused; 13 patients were operated upon because after a pre-surgical period of treatment they were considered to have malignant lesions. Twelve of these 13 were resected and pathological examination proved them to be cancerous, so that there were 18 per cent which proved malignant.

With only 18 per cent then of cases proving intractable to treatment which cannot be accurately diagnosed by the radiologist out of a large series—or nine per cent of the whole, it seems to me that this plan is an admirable one. Certainly, the best criteria by which one may judge his own reactions to a given plan is what would he do under the circumstances if he possessed a gastric ulcer, and I have no hesitation in saying that I would be perfectly willing to spend three additional weeks in the hospital to prove whether or no my ulcer disappeared or was intractable to treatment before I submitted to an exploratory operation.

CANCERS: A discussion of those cases recognized frankly as cancer of the stomach, and their surgical treatment, is not within the scope of this paper, but I would like to emphasize two points which have been borne in upon me during this series, which I think are worthwhile. One is that all borderline cases which are locally removable should be resected except in the presence of extensive liver metastases. Given a case where there are no palpable nodules in the liver, and only hard glands along the lesser curvature deter the surgeon in easily arriving at the conclusion, I feel that the patient should have the benefit of a resection even though the glands are involved. Individuals die comfortably from a cancer of the liver, but they die miserably from cancer of any portion of the gastrointestinal tract.

The involvement of glands can only be determined by microscopic examination. To palpate glands along the lesser curvature and assume from their feel that they are malignant is but the refuge of a timid and inexperienced surgeon and reflects discredit on the proper treatment of gastric cancer. Borderline cases should be removed even at the increase of operative mortality for the extension of operability will result in more living patients at the end of a given period of time than successful survivals of resection where the cancer is limited to the stomach itself and glands have not been involved. Fifty per cent of this latter type of case will survive over a period of three years.

The other point I would like to stress, and here this opinion is in direct controversion to that of many experienced surgeons, is the usefulness of a posterior gastroenterostomy in an inoperable and obstructing cancer of the stomach. I realize that it will increase the mortality—perhaps double it —to do drainage operations on hopelessly inoperable cancers, but my reason for such a decision is the unpleasant, unhappy, painful demise of these dessicated, dehydrated, vomiting, hopeless sufferers who cannot have the comfort of eating and who cannot gain surcease from their misery by a syphoning off of the gastric content with a tube. It is all very well for elder surgeons located in centers to send these patients back to the family doctor with instructions to wash out the stomach and thus keep them comfortable, but for those of us who see these sufferers daily after we have operated upon them, I know of no more unpleasant tragedy or a more disheartening scene than the final weeks of such a case.

Disregarding mortality figures, I feel that much comfort may be given many of these people by a simple gastroenterostomy. Certainly, I would prefer to chance a hospital casualty were I the unfortunate victim, than to live a few weeks longer in suffering and pain.

Conclusions: To epitomize then, I feel first, that in any regime which is directed toward the eradication of a peptic ulcer, cooperative management is essential; second, that elimination of all foci of infection should be encouraged; and third, that the individual's life be directed along lines which prevent such precipitating factors as hypersecretion, focal infection, and gastric trauma taking place again.

Surgical treatment of peptic ulcer is the treatment of its complications. First, obstruction; second, perforation; third, repeated hemorrhage; fourth, intractability to treatment thus influencing the individual's economic status; and fifth, the question of malignant degeneration. It is a good working plan that surgical intervention is only indicated in those cases where medical regime has been a failure or some of the above mentioned complications have resulted. In the application of surgery, the merits of the direct and indirect types of attack—that is, local excision of the ulcer with sacrifice of the pyloric sphincter, or gastroenterostomy, or both, continue to invite heated debate. For my own part, I believe that individualization of patients should govern the application of any technical measure. As for the more radical procedures of wide-spread resection of the stomach for a benign duodenal ulcer, I heartily am opposed to it except for the definite indications mentioned above, and there, I think, its value has been established.

DISCUSSION

Walter O. Bullock, Lexington: When Dr. Rankin asked me if I would discuss his paper I told him that if he were right I would not discuss it, but if he were wrong I would be glad to. Unfortunately I find Dr. Rankin's opinions and his position in the relation of surgery to disease of the stomach and duodenum correspond so closely to my own as the result of my own experience and my own thinking that it leaves me up in the air as to the discussion of his paper. I thought, however, that I would project myself into the future a little bit and see how our present status in the treatment will stand the test of future discoveries and progress.

Naturally, all of the treatment which is based upon mechanical differences or deviations from the normal structure will be treated along the lines which were firmly established by Wolfler, Hartman, Kocher and Billroth forty years ago, nor do I see any reason why in the next forty, fifty or a hundred years such principles should not remain permanent.

As to the treatment of the functional conditions such as those questionable cases of intractable ulcer and hemorrhage and things of that sort, I think the developments of the pathology and physiology will largely cause us to make some alteration in the present plan. I think, moreover, that pyloroplasty is perhaps a more physiological modification of the stomach and duodenum than gastroenterostomy, and I think the probability is that it will be more frequently employed than it is at present, and that there will be fewer gastroenterostomies than are being done at present.

As to bleeding ulcers, I thing the view of Hartman and Pfinsterer and others who advocate the immediate operation of bleeding ulcers will become more firmly established. The chances are that with an inexhaustible or practically sufficient supply of canned blood or artificial blood, which is almost certain to be developed, immediate operation will be called for in all these cases and will reduce the danger to a fraction of what it is at present.

Of course this is all speculation.

As to the treatment of carcinoma of the stomach, I believe there will be a definite malignancy test which will exclude simple ulcers from surgery altogether, and in this way we may get at early carcinomas and treat them as they are done at present by radical operation, as soon as the ulcer is definitely known to be malignant.

I believe, further, that radical surgery for advanced malignancy, not only in the stomach, but in any part of the body, will not be the answer, but that we are going to have something that will be much more beneficial. Just what it is is for the future.

Irvin Abell, Louisville: Briefly summarizing Dr. Rankin's paper, one may say that the successful treatment of these ulcers depends upon three factors: (1) a proper selection of patients, which he has fully outlined and upon which both the doctors and the surgeons at the present time are agreed; (2) a proper choice of operation for the individual case, what he has termed individualization. Here one might emphasize some of the points that he has made. In gastric ulcer it is essential that the ulcer be destroyed, for the reason that he has mentioned, namely, the danger of malignancy. Where one can excise a gastric ulcer and do a gastroenterostomy, such constitutes the simplest and safest conservative method and should be employed, reserving the more extensive resections for those which do not permit of such treatment.

Granting that the gastric ulcer is on the lesser curvature and surrounded by a great deal of induration, one cannot excise such an ulcer without greatly deforming the stomach and possibly interfering with its drainage. In such instances resection is preferable even though the presence or possibility of malignancy does not enter into its consideration.

The greatest diversity of opinion exists when one considers the management to be employed in the treatment of duodenal ulcer. Granting that the simpler methods, the more conservative ones of pyloroplasty, gastroenterostomy with simple excision and possible resection of the pyloric muscle, give a satisfactory result—and they do in the large majority of cases—they certainly are the ideal methods of treatment.

In addition to the perforations of the posterior wall into the head of the pancreas, I have added two other indications for resection in duodenal ulcer, namely the ulcers that have shown continued bleeding and the instances in which the ulcers are multiple. In our earlier experience we did simple gastroenterostomies in all three types and we were disappointed in that we found a continuation of digestive discomfort, in that we found a continuation of bleeding, in that we found in the cases that perforated into the head of the pancreas, the resultant pancreatitis did not always subside, and in one or two instances patients came back to us with a malignancy of the pancreas.

I grant you that the resection of the duodenum under such circumstances, particularly when the ulcer has perforated into the head of the pancreas, is a more difficult procedure and will carry with it a higher mortality than the more conservative operations, but at the same time it will give patients an assurance of freedom in the future—more assurance than one can give from any other method of treatment.

The essayist has stated to you that ulcer is but a local expression of some general disorder and that we are operating not upon the cause of the disease but upon the result or sequel of it; consequently regardless of whether we apply medical treatment or surgical treatment a certain percentage of these cases are doomed to result in failure in so far as symptomatic relief is concerned.

Granting that one has made a proper selection of patients for operation, as indicated in his paper, that in addition one has made a proper choice of operation for the individual case, the third indication which he has mentioned is, to my mind, just as essential as either of the other two, and that is a proper supervision of patients afterwards. Failure to relieve patients will result from failure to carry out appropriate after treatment, and either the surgeon must be a good internist or he must have the services of a good internist to aid him if the patients subjected to operation are to remain free of trouble. Errors in technic we will exclude because we will assume that the proper choice of operation has been followed by proper execution of the operation. Failure to remove foci of infection he has mentioned. I would amplify or emphasize this further by saying that if infection exists in the appendix or the gall bladder, and one fails to correct it, such patients will have trouble in the future.

Finally, we must recognize that the occurrence of gastric symptoms in a goodly percentage of individuals is to be observed in those who present no pathology, in other words who are of a neurotic type, whatever that may mean, and if such individuals are unfortunate enough to have an associated peptic ulcer, regardless of the method of treatment, medical or surgical which one may enjoy in this particular group of cases, we are doomed, I think, to a certain amount of disappointment unless the extragastric cause of symptoms can be eliminated.

INTERPRETATION OF GASTRIC PAIN*

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When the patient presents himself to the doctor for treatment and states that he has a pain in the region of the stomach, he quite frequenly refers to an area anywhere from the ensiform cartilege to the symphysis of the pubes. In attempting to write a paper on Gastric Pain, I shall try to confine my paper to pain in the upper abdominal region or gastric area which is rather a broad subject, as we all know that pains in this region may be due to various causes other than the stomach and for one to arrive at a correct diagnosis is often a very difficult problem indeed. However there are certain ear marks that characterize pains in this region which, if one will keep in mind will aid very much in forming a conclusion.

Pain is the major symptom which brings the patient to the physician, and because of its common occurrence and the information it gives concerning the location, extent and intensity of many lesions, forms one of our most reliable guides to diagnosis. On the other hand, in the highly nervous patient there may not be a more confusing symptom in the whole catagory of subjective phenomena, depending upon the sensibility of the patient. In some individuals, it may be excited by the least trifling stimulant such as gas spasticity etc. The real physician must be a psychologist, and a real student of human nature, he must learn intuitively to appraise the seriousness of the symptoms, as the patient may often be a consummate actor. In that case, a correct diagnosis will depend upon the experience and judgment of the physician as pitted against the ingenuity and dexterity of the patient. Therefore, the physician must learn to evaluate pain, not only by subjective symptoms alone, but he must valuate all the expressions, facial distortions and obvious discomforts which accompany the tell-tale symptoms that may be illicited by a painstaking examination of the individual.

The painful diseases of the stomach per se belong according to nomenclature to three main groups; inflammations, ulcerations, and new growths. These conditions are all typically accompanied with pain in some part of their evolution, on the other hand we have to consider the functional disturbances both secretory and motor, displacements and atonies, however, these in the absence of other complications are rarely ever associated with pain. If an analysis of an individual indicates one of the later conditions and after a careful gastric and X-ray examination demonstrates no organic trouble, we must then lay the blame for pain on some associated condition, the frequent offenders are the gall bladder, appendiceal disease, duodenal or some part of the small bowel, colon or pancreatic disease.

Stomach pain is nearly always epigastric, occasionally it may be referred to the left or to the right but as a rule, it is situated in the pit of the stomach. The solar plexus is undoubtedly the main telegraph station so that many of the older observers were of the opinion that the pain emanated from the solar plexus. Today, most authorities have agreed that the pain so far as gastric diseases are concerned is due to muscular tension. It may be induced in this way even in the normal individual, any thing which may produce increased muscular tension as over distention of the stomach, this may simply be an increase in tone, there is no question whatsoever that traction of the peritoneum will produce pain traction plus distention will produce intense pain.

The older clinicians were of the opinion that functional diseases of the stomach were practically never accompanied by pain, otherwise, we were to surmise that when pain was present there was organic disease, while this statement in a measure is correct but by no means invariably true. Ryle in one of his interesting clinical lectures has pointed out that the individual who runs a one-hundred yard race will have a pain around or in the region of the heart simulating angina pectoris, provided he taxed his heart beyond its working capacity which is namely a condition of temporary anoxemia of the heart muscle, might make the same statement regarding the capacity of the normal stomach. I am constrained to believe that each one of us has a definite stress or strain point for practically every organ in the body beyond which point, if such organ is taxed will produce pain. Therefore, when we over eat, or eat the wrong kind of food or take into our stomachs irritants, nature's only method of telling us of our folly is with pain, or distress. Now in the healthy stomach the factor of safety is large. In the diseased stomach only a small amount of distention is necessary to produce pain.

Furthermore, in inflamed conditions of the stomach, the pain is likely to appear soon after eating. There is no group of digestive diseases which gives the same degree of periodicity and rhythmicity to pain as does peptic ulcer. Gastric ulcer nearly always gives pain within one to two hours after taking of food, while duodenal ulcer is somewhat later, usually say in three hours after a moderate meal. All sorts of attempts have been made to explain the acid curve and the motor phenomena with relation to gastric pain, but time will not permit me to take up this interesting problem. Suffice it to say, that for many years it has been a clinical view that high free acid was the responsible factor.

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In every instance one must rule out organic disease of the central nervous system. The writer recalls only a short time ago of treating a patient in the home for an intense pain in the gastric region with tenderness over the gall bladder together with nausea and vomiting of bile, which had the typical ear marks of an acute gall bladder infection. About four months later I was very much chagrined when the same patient staggered into my office with a well marked case of locomotor ataxia. He had all the cardinal signs. Argyle Robinson pupil, loss of patella reflex, typical Rhomburg together with a blood Wassermann of 4 plus. I realized then that I had overlooked a case of gastric crisis, instead of a gall bladder condition as I first thought. The sin of omission was that I failed to make a thorough examination of the central nervous system. One must also think of spine joints which may produce referred pains, but they are uniquely aggravated by motion.

One of the commonest causes of pain in the epigastric region is gall bladder disease. I might further add that it is responsible for more gastric disturbance, so-called indigestion, flatulance as the patient would have it than anything else. The commonest cause of upper abdominal distress is gall bladder disease and not gastritis. The pancreas is a frequent offender, acute pancreatitis in its most typical form is so severe in its onset that one often considers early surgical consultation. Pancreatic disease in its chronic form resembles gall bladder disease in its annoying persistency only more so. The relationship to food is not so clearly drawn, by no means as it is in gastric or duodenal disease. Situated on the posterior body wall the pain is frequently referred to the back. Although it may be sickenly persistent in the epigastrium. It likewise shows a refractoriness both to therapy and diet, and when such pain is associated with progressive loss in weight, one should always bear in mind pancreatic disease. Fortunately we possess today several methods which are of value in making a diagnosis of pancreatic disease.

Splenic disease may be painful, in fact an exceedingly painful condition, but the pain is usually located in the left hypochondriac region. When one realizes the great distortion of the stomach which occurs some times with enlargement of the spleen, it is not difficult to understand why the lessened gastric capacity will also show definite gastric symptoms.

We find that epigastric pain which is nearly always referred to by the patient as his stomach, may be due to many causes other than the stomach, the commonest is gall bladder disease, either a cholecystitis, stone in the hepatic or common duct or both.

The commonest gastric conditions are ulcer and carcinoma, and the severest pain of stomach next to perforation is the deep penetrating ulcer or so-called chronic perforating ulcer. Acute or subacute dilatation may produce gastric pain, also pain of a very excruciating type may be seen in the torsion of a diaphragmatic hernia.

Other causes of pain in the gastric region which may be enumerated as follows: epigastric hernia, post operative hernia, adhesions, perigastritis, diverticulitis, more particularly of the duodenum, hepatitis, retroperitoneal growths, tubercular obstructions of every variety and description. A slow leak from an ulcer, various forms of pancreatitis, colitis, renal stone, twists and stricture of ureter, dilitation of the kidney, pelvis, as hydro and pyonephrosis. One might mention many lesser conditions which is unnecessary at this time. Nearly all gastric, duodenal and gall bladder conditions as well as colon anomalies can be definitely proven or disproven by a subsequent careful study. Pain from angina pectoris, coronary thrombosis or occlusion from various causes may give a pain often referred to the gastric region, however, there are certain ear marks that may aid one in arriving at a conclusion that the heart is the factor in producing the pain. As a rule, there is some evidence of heart discomfort as shortness of breath, shock, cold clammy perspiration, pain may also radiate to the chest and out the left arm, the patient has a sense of very great depression and apprehension and will often say they are going to die, and having found their prognosis more correct than mine on few occasions, have learned to take notice to their decision.

I have mentioned the fact that epigastric pain when due to gastric disease nearly always shows a definite relationship to food. I further wish to emphasize the fact that there are many conditions not due to stomach disease which may exist and so affect the stomach directly or reflexly that the clinical picture may suggest stomach disease rather than the true condition. Furthermore, I wish to call your attention to the digestive time table which should never be forgotten in studying digestive conditions.

Esophageal disease flares up on deglutition, stomach disease as ulcer about two hours after eating, duodenal disease about three or four hours after taking food, gall bladder, pancreatic and hepatic conditions four or five hours after eating, colon disease manifests itself in the period of greatest activity, namely defecation. This tendency for an organ to manifest pain with increased functional activity is one of the important lessons which the clinician should remember and appreciate.

As angina pectoris has its effort syndrome so we expect evidence of heart disease when the action of the heart is increased. We expect stomach symptoms if we demand increased work on the stomach by indiscretion in diet throwing a greater load on the stomach, we get the sharpest response from the gall bladder when we take foods like egg yolk and cream, which are nearly always accompanied by a sharp contraction of the organ. We get a manifestation of colon disease in a disorder of its most obvious function, that of bowel evacuation. We get evidence of genito-urinary disease usually during the act of micturation. Likewise we get evidence of spinal disease, skelital disease, muscular disease when we demand active function of the part involved.

I further wish to call your attention to other conditions which may be very misleading, as influences through the blood stream, the various allergic conditions, acute infectious diseases as measles, lead poisoning, undulant and rheumatic fevers. There is another condition I should like to speak of at this time, it is not so common, however, I had two cases only a year or so ago, this is arachnidism caused by the bite of the black widow spider. I can see that without a clear cut history the symptoms may simulate an abdominal condition so as to lead one to an emergency laparotomy, of which there has been more than one case on record. My cases complained of an intense pain in the gastric and abdominal region, back, and extremities with board like rigidity of the abdominal muscles so much so as to suggest to one's mind without a definite history, a perforated peptic or duodenal ulcer, in each instance the pain was so intense that it required a half a grain of morphine to afford relief. Both of my cases recovered as they usually do. The venom of the spider is very potent however the amount of poison is very limited, recovery is the rule in a few days. Very few fatalities have been reported.

Herpes zoster may mimic an acute abdominal condition in its early stage, before the appearance of the charactertistic rash, ordinarily the pain and other symptoms are not sufficiently marked to suggest an intra abdominal or gastric lesion. Pain therefore is an exceedingly important subject demanding a very careful study as to position, type, radiation and then a careful physical examination to rule out acute inflammations, obstructions, and perforations. Nothing is more satisfying to me when the telephone call has brought a quick visit to the bedside of a patient in great anxiety then to find a soft abdomen. Quite frequently a pain is due to merely gas or spasm, however, if the physician depends too much on the statements of the patient he will often miss a more serious perforation when every minute counts.

I have always been interested in the type of pain, for instance, the pain of duodenal ulcer; it may be severe and recurrent, boring and gnawing in type. Or on the other hand, it may be merely an imperious sense of hunger associated with extreme nervousness, resembling perhaps more than anything else that of hypoglycemia. The posterior penetrating ulcer gives a sharp boring pain. There is perhaps no pain with exception of perforation as severe as that of stone. Rehfuss in one of his articles very aptly describes the individual with stone "as the fighting patient." The physician rarely has to hesitate or argue with him about a hypodermic, relief is what he is looking for. He twists and tosses from one side of the bed to the other in great agony. We find the picture quite different from the inflammatory abdomen as in appendicitis where the patient lies quietly in bed with his right leg drawn up, trying to guard his tender abdomen against the least palpation. Contrast his case with the fighting gall bladder patient who doubles his fist in his abdomen or bends over the back of a chair and demands immediate relief. Then picture the perforation case who describes his pain in various ways as the thrust of a whip lash or an agonizing pain which is too great for him to stand, then contrast his board like abdomen with the soft abdomen of the uncomplicated stone case. Furthermore, study the history of the gall bladder case and note the persistant annoying pain of his condition, usually a well localized tender spot in the gall bladder region sore to the touch, but in the great majority of cases no real muscular rigidity. Then realize that after you have reached your conclusion by a careful survey of the physical examination and history, bearing in mind the accident of an acute abdomen you have at your disposal a number of methods capable of working out the underlying condition.

DISCUSSION

J. R. Gott, Jr., Louisville: We all frequenty encounter the problem of explaining pain in the region of the stomach. Experience has taught us to rely upon the grouping of associated clinical signs such as the type of pain, its position, its duration, its radiation and its relationship to meals, in making a tentative diagnosis. It is better to carry this study a step further and to consider the actual mechanism of the pain. When one considers pain in terms of smooth muscle spasm, distention, peritoneal tension, or peritoneal irritation, a better understanding of the condition should result. When one considers that both functional disorder and organic disease may produce or be associated with spasm or distention, it is easy to understand why the pain which the lad of eight years experiences as a result of eating too many green apples may be quite similar to that experienced by the individual of forty who has a peptic ulcer. Also, when one recalls the semi-fluid state of all the abdominal contents, it is to be expected that a change in the contents or volume of one organ may produce symptoms in another. Add to this the fact that peristaltic action in the upper gastrointestinal tract also initiates peristalsis in the lower tract, and we can see why pain originating in the colon is so frequently interpreted as coming from the stomach, simply because the symptoms are influenced by meals.

It cannot be repeated too often or emphasized too much that any time abdominal pain is encountered the clinician should be alert to the possibility of a surgical emergency, and in individuals past forty, to the possibility of coronary disease.

Again may I commend Dr. Sherman on his paper and thank him and the Society for the privilege of discussing it.

BOOK REVIEW

DISABILITY EVALUATION, PRINCIPLES OF TREATMENT OF COMPENSABLE INJURIES. By Earl D. McBride, B. S., M. D., F. A. C. S., assistant professor in Orthopedic Surgery, University of Oklahoma School of Medicine, attending orthopedic surgeon to St. Anthony's Hospital, associate orthopedic surgeon to Wesley Hospital, visiting surgeon to W. J. Bryan School for Crippled Children, chief of staff to Reconstruction Hospital, Oklahoma City. Three hundred and seventy-four illustrations. Art work by Herbert Cheszam. J. B. Lippincott Company, Publishers, Philadelphia, London, Montreal. Price $8.00.

The purpose of this volume is to interpret the physiological and mechanical alterations arising out of injuries to the motor structures of the human body and to reasonably appraise and evaluate the extent of functional loss as it relates to the economic incapacity of the injured. As the physician or surgeon is called upon to evaluate the extent of the incapacity it is essential that both should endeavor to determine the variation in restoration to normal. The author has attempted to stress the effect of physiological and mechanical alterations of the motor parts of the body and to draw conclusions as to the loss of function by evaluating the factors which compose function.

MODERN TREATMENT AND FORMULARY—By Edward A. Mullen, P. D., M. D., F. A. C. S. Assistant Professor Pharmacology and Physiology, Philadelphia College of Pharmacology and Science. Lt. Commander, Medical Corps, U. S. Naval Reserve. Foreword by Horatio C. Wood, Jr., Professor of Therapeutics in University of Pennsylvania, Graduate School of Medicine, Professor of Pharmacology and Physiology, Philadelphia College of Pharmacy. F. A. Davis Company, Publishers, 1914-16 Cherry St., Philadelphia. Price $5.00.

The busy practitioner will find in this book condensed information for use in his daily office and bedside practice.

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NEWS ITEMS

Readers will find the program of the Post Graduate Course of the Indiana University School of Medicine and the Indiana State Medical Association in their advertisement on page xxi. A change has been made in the program as printed as follows:

Monday, May 10, 1937—11:00 to 12:00 Noon

C. A. Alderick, M. D., Assistant Professor of Pediatrics, Northwestern University, "Nephritis in Children."

1:30 to 2:30 P. M.

S. Gibson, M. D., Associate Professor of Pediatrics, Northwestern University. "Rheumatic Problems."

2:30 to 3:30 P. M.

A. D. Kaiser, M. D., Associate Professor of Pediatrics, University of Rochester School of Medicine. "The Tonsil Problem."

P. Blakiston's Son & Co., Inc., announce with deep sorrow the death of the president, Kenneth M. Blakiston, on Tuesday, January 19, 1937.

The many friends of William A. Widmer, who was connected with the J. B. Lippincott Company, of Philadelphia, for thirty-seven years, will learn with regret of his sudden death with a heart attack recently.

Kentucky Medical Journal
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NEXT MEETING BEREA, SEPTEMBER 6-9

COUNTY SOCIETY REPORTS

Grant: The Grant County Medical Society met in regular session Feb. 17, at the office of the Health Department with the following members present: Drs. Davis, C. M. Eckler, Blaine, A. P. Rich, Mann, Marshall, Ellis, Harper, and C. A. Eckler.

The minutes of the last meeting were read and approved and the usual business gone through with. Motion made by Dr. Marshall and seconded by Dr. Mann that a bill be made out by the secretary at each meeting and prorated for the expenses to-date. A collection was taken of twenty-five cents per member and given to Mr. Crutcher for the use of his film machine.

The reel took fully thirty-five minutes and showed up-to-date surgery on all injuries of the extremities. This was real instructive and keeps us abreast with modern things now used.

Dr. Ed Northcutt gave us some leaflets of injuries to the extremities, which were appreciated by all. This was from Dr. Ed's vast experience along this line.

The next topic for the evening was Medical Ethics read by the president as outlined by the Journal of The American Medical Association. This was a subject of vital importance to keep, us on our guard in our daily walks in the practice of medicine. Not only in our treatment to our patients, but in our brotherly love to help and assist one another and not to grab each others patients and do as you wish to be done unto. The idea is to be a true Gentleman in every respect in dealing with one another. All members should have heard the discussion of this subject. It was discussed by all present until quite a late hour and I think all members present felt they had been benefited by the discussion of this subject.

We also took up the subject of the Immunization against Typhoid Fever and it was the general opinion that capsules taken internally was yet in its infancy as an immunization remedy for Typhoid and as yet has not been approved by The Council of Pharmacy of The American Medical Association. The surest way and safest is subcutaneous injection.

Dr. Mann and Dr. Harper were appointed to attend the Campbell-Kenton Society, Thursday evening in Newport.

We now adjourned to meet the third Wednesday in March, at the same hour.

P. E. HARPER, Secretary.

Grant: The Grant County Medical Society met in regular session January 20, at the office of the Health Department with the following members present: Drs. N. H. Ellis, A. D. Blaine, C. M. Eckler, P. E. Harper, and C. A. Eckler.

Minutes of the last meeting were read and approved and an unusual routine of business carried on. We wanted to make this a banner year and started out with a hundred per cent membership.

We had a communication from Harrison County Medical Society read, to work out a fair scale of fees for caring for the poor of our county. Dr. Ellis was ordered to communicate further with them in regard to same.

Motion made and seconded that the secretary order motion picture films for our next meeting from Davis and Geck of New York.

The one ordered was Traumatic Surgery of the Extremities, a fifty-five minute reel.

N. H. Ellis read a most excellent paper on "Is Cancer Curable?" This was discussed and enjoyed by all.

We now adjourned to meet the third Wednesday in February, at the usual hour.

P. E. HARPER, Secretary.

Grant: The Grant County Medical Society met in regular session March 17, 1937, at the office of the Health Department with the following members present: Drs. George, Davis, Kinsey, C. M. Eckler, N. H. Ellis, Mann, C. A. Eckler, and P. E. Harper, and as visitors, we had Dr. Nathan Flax and Paul Seiler, of the Booth Memorial Hospital.

Dr. Nathan Flax has charge of the X-Ray Department of Booth Memorial and demonstrated numerous X-Ray pictures of sinus troubles and a number of cancers of stomach and aesophegus in various stages of process formation. These were indeed very interesting and showed the advanced study now going on in the research work of this dire disease—cancer.

The minutes of the last meeting were read and approved and the business of the evening entered into.

The meeting this evening was to discuss the treatment of the poor and needy of our county and the practice to the unworthy and to the ones, who are constantly "beating us" out of our bills. There is not a single physician in this county, who would not go at the hour of midnight to see a poor worthy indigent patient and God knows that, that is a part of our teaching in which we have had the best of training.

Knowing these things to be true, we have decided it is unjust to this society to have a small fee given by the Fiscal Court as a salary, which does not cover the cost of medicine furnished our truly indigent patients. Therefore, on motion and seconded, it was unanimously carried to do away with the contract of $25.00 fee from the Fiscal Court and to notify the Court at once of said action. The same to take effect April 1st.

In addition to this, a motion was made and seconded and carried unanimously that the Health Officer cease treating patients at the jail and County Infirmary. The same to take effect April 1st. The Health Officer is not allowed by law to use medicine only in a preventive way. Dr. Ellis is making a splendid Health Officer and we as Doctors, back him in his efforts in preventive medicine and sanitation.

We now adjourned to meet the usual time in April.

P. E. HARPER, Secretary.

Bourbon: The Bourbon County Medical Society held its regular meeting Dec. 17, 1936 with the following members present: C. G. Daugherty, J. C. Hart, J. A. Orr, E. Hyden, E. L. D. Blake, S. M. Rickman, G. A. Rankin, B. N. Pittinger and W. B. Hopkins.

Visitors: Marshal McDowell, W. B. Moore, and C. H. Blount of Cynthiana. Drs. F. W. Welt, C. M. Gambill, H. V. Johnson and E. C. Barlow of Georgetown and Dr. Douglas E. Scott of Lexington. Dr. Scott was speaker for the evening. His subject was "Treatment of Gonococcic Infection in the Male."

The following officers for 1937 were elected: President, W. B. Hopkins; Vice-President, J. C. Hart; Secretary-Treasurer, S. M. Rickmon; Delegate, J. A. Orr; Alternate Delegate, G. C. Daugherty; Censor, J. C. Hart (re-elected).

S. M. RICKMON, Secretary.

IN MEMORIAM HUGH E. PRATHER

On June 1, 1936, Dr. Hugh Edward Prather, Hickman, Kentucky, passed away. He had been operated in a Memphis hospital five weeks previously for a ruptured gall bladder, and evidently died of an embolism.

Dr. Prather was one of the most loyal and valued members of the Kentucky State Medical Society, He loved the medical profession; he honored and respected its personnel, and was intensely interested in the achievements of medical science.

He was born May 2, 1878, and was therefore fifty-eight years of age at the time of his death. He was graduated in 1900 from the University of Louisville, with first honors, and served a year of internship at the City Hospital. He was a member of Hospital Unit No. 59 in the World War, and went to France in September, 1918, where he was Captain in the Medical Corps. He had a military bearing, and his record as a soldier was no less laudable than his achievements as a physician.

He had been Health Officer of Fulton County for the last ten years, and his place in the county will be difficult to fill.

Dr. Prather leaves a widow and three sons, one of whom is a doctor.

The happiness and service of our society is sustained by the presence of members of his type. The passing of one is a loss that is immeasurable.

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MAY 10-14, 1937

	Monday, May 10	*Tuesday, May 11*	*Wednesday, May 12*	*Thursday, May 13*	*Friday, May 14*
8:00 *a. m.* *to* 11:00 *a. m.*	Registration 8-9 a. m. Clinics on 1. Pediatrics 2. Medicine 3. Obstetrics 4. Gastro-Intestinal Diseases 5. Physical Therapeutics	Clinics on 1. Cardiovascular renal disease 2. Surgery 3. Gynecology 4. Medicine 5. Otolaryngology	Clinics on 1. Orthopedics 2. Dermatology 3. Roentgenology 4. Surgery 5. Obstetrics	Clinics on 1. Urology 2. Pediatrics 3. Otolaryngology 4. Medicine 5. Neurology and Psychiatry	Clinics on 1. Cardiovascular renal diseases 2. Surgery 3. Dermatology 4. Gastro-Intestinal diseases 5. Ophthalmology
11:00 *a. m.* *to* 12:00 *noon*	Lecture: Vitamines	Therapeutic Aphorisms	Modern Treatment of Pneumonia	Medical Jurisprudence	Urologic and Orthopedic Aphorisms
1:30 *to* 2:30 *p. m.*	Panel discussion on Pediatrics	Panel discussion on Medicine	Panel discussion on Surgery	Panel discussion on Obstetrics	Panel discussion on Therapeutics
2:30 *to* 3:30 *p. m.*	Practical demonstration on Otolaryngology	Practical Demonstration on Intravenous Therapy	Practical Demonstration on Aseptic Technic and Splints	Practical Demonstration on Obstetrics	Practical Demonstration on Dermatology and Urethral Instrumentation
3:30 *to* 5:00 *p. m.*	**CLINICAL PATHOLOGICAL CONFERENCES, WITH THE SPEAKER OF THE EVENING TAKING AN ACTIVE PART**				Voluntary Examination Questions and Answers
8:00 *p. m.*	Guest Speaker Samuel A. Levine, M. D., Boston Assistant Professor of Medicine, Harvard University Medical School Cardiology	Guest Speaker Vernon C. David, M. D., Chicago Clinical Professor of Surgery, Rush Medical College Surgery	Guest Speakers Nicholas J. Eastman, M. D., Baltimore Professor of Obstetrics Johns Hopkins University School of Medicine Obstetrics Frank C. Mann, M. D., Rochester, Minn. Professor of Pathology, Surgery and Experimental Physiology, University of Minnesota, Graduate School of Medicine Physiology	Guest Speaker Harold N. Cole, M. D., Cleveland Associate Clinical Professor of Dermatology and Syphilogy, Western Reserve University School of Medicine Syphilis	PUBLIC MEETING Guest Speaker Prof. Maude Slye Associate Professor of Pathology, University of Chicago Cancer Another speaker to be announced later.

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Vol. 35. No. 5 Bowling Green, Ky. May, 1937

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Editorial and Business Offices, 519 Tenth Street. Subscription Price, $5.00; Single Copy, 50 cents.
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DIARRHEA

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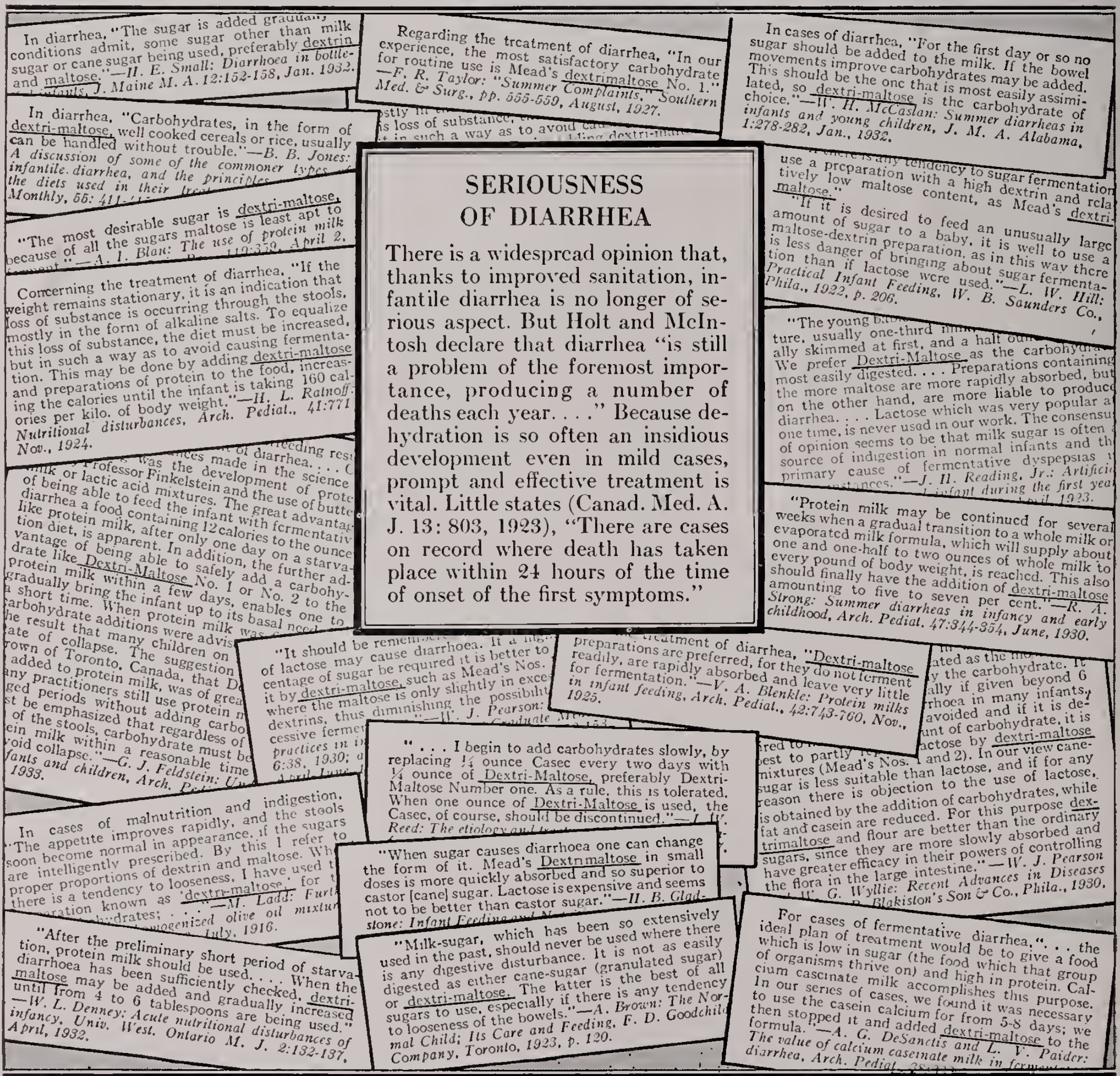
One of the outstanding features of DEXTRI-MALTOSE is that it is almost unanimously preferred as the carbohydrate in the management of infantile diarrhea.



In diarrhea, "The sugar is added gradually;
conditions admit, some sugar other than milk
sugar or cane sugar being used, preferably dextrin
and maltose."—*H. E. Small: Diarrhoea in bottle-*
infants, J. Maine M. A. 12:152-158, Jan. 1932.

In diarrhea, "Carbohydrates, in the form of dextri-maltose, well cooked cereals or rice, usually can be handled without trouble."—*B. B. Jones: A discussion of some of the commoner types of infantile diarrhea, and the principles*
the diets used in their treat
Monthly, 55: 411-

"The most desirable sugar is dextri-maltose,
because of all the sugars maltose is least apt to
ferment."—*A. I. Blau: The use of protein milk*
119:359, April 2,

Concerning the treatment of diarrhea, "If the weight remains stationary, it is an indication that loss of substance is occurring through the stools, mostly in the form of alkaline salts. To equalize this loss of substance, the diet must be increased, but in such a way as to avoid causing fermentation. This may be done by adding dextri-maltose and preparations of protein to the food, increasing the calories until the infant is taking 160 calories per kilo. of body weight."—*H. L. Ratnoff: Nutritional disturbances, Arch. Pediat., 41:771 Nov., 1924.*

of diarrhea. . . . C
ces made in the science
Professor Finkelstein and the development of prote
milk or lactic acid mixtures. The use of butte
of being able to feed the infant with fermentativ
diarrhea a food containing 12 calories to the ounce
like protein milk, after only one day on a starva-
tion diet, is apparent. In addition, the further ad-
vantage of being able to safely add a carbohy-
drate like Dextri-Maltose No. 1 or No. 2 to the
protein milk within a few days, enables one to
gradually bring the infant up to its basal need
a short time. When protein milk was
carbohydrate additions were advis
the result that many children on
state of collapse. The suggestion
Town of Toronto, Canada, that D
added to protein milk, was of grea
any practitioners still use protein m
ged periods without adding carbo
st be emphasized that regardless of
of the stools, carbohydrate must be
ein milk within a reasonable time
void collapse."—*G. J. Feldstein: Un*
fants and children, Arch. Pedi
1933.

Regarding the treatment of diarrhea, "In our experience, the most satisfactory carbohydrate for routine use is Mead's dextrimaltose No. 1."—*F. R. Taylor: "Summer Complaints," Southern Med. & Surg., pp. 555-559, August, 1927.*

In cases of diarrhea, "For the first day or so no sugar should be added to the milk. If the bowel movements improve carbohydrates may be added. This should be the one that is most easily assimilated, so dextri-maltose is the carbohydrate of choice."—*W. H. McCaslan: Summer diarrheas in infants and young children, J. M. A. Alabama, 1:278-282, Jan., 1932.*

If there is any tendency to sugar fermentation
use a preparation with a high dextrin and rela
tively low maltose content, as Mead's dextri-
maltose."
"If it is desired to feed an unusually large
amount of sugar to a baby, it is well to use a
maltose-dextrin preparation, as in this way there
is less danger of bringing about sugar fermenta-
tion than if lactose were used."—*L. W. Hill:*
Practical Infant Feeding, W. B. Saunders Co.,
Phila., 1922, p. 206.

"The young bab
ture, usually one-third
ally skimmed at first, and a half oun
We prefer Dextri-Maltose as the carbohydra
most easily digested. . . . Preparations containing
the more maltose are more rapidly absorbed, but
on the other hand, are more liable to produce
diarrhea. . . . Lactose which was very popular a
one time, is never used in our work. The consensu
of opinion seems to be that milk sugar is often
source of indigestion in normal infants and th
primary cause of fermentative dyspepsias
instances."—*J. H. Reading, Jr.: Artifici*
infant during the first yea
1933.

"Protein milk may be continued for several weeks when a gradual transition to a whole milk or evaporated milk formula, which will supply about one and one-half to two ounces of whole milk to every pound of body weight, is reached. This also should finally have the addition of dextri-maltose amounting to five to seven per cent."—*R. A. Strong: Summer diarrheas in infancy and early childhood, Arch. Pediat. 47:344-354, June, 1930.*

SERIOUSNESS OF DIARRHEA

There is a widespread opinion that, thanks to improved sanitation, infantile diarrhea is no longer of serious aspect. But Holt and McIntosh declare that diarrhea “is still a problem of the foremost importance, producing a number of deaths each year. . . .” Because dehydration is so often an insidious development even in mild cases, prompt and effective treatment is vital. Little states (Canad. Med. A. J. 13: 803, 1923), “There are cases on record where death has taken place within 24 hours of the time of onset of the first symptoms.”

"It should be remembered
of lactose may cause diarrhoea. It a high
centage of sugar be required it is better to
it by dextri-maltose, such as Mead's Nos.
where the maltose is only slightly in exces
dextrins, thus diminishing the possibilit
cessive fermen —*W. J. Pearson:*
practices in in Graduate
6:38, 1930;

treatment of diarrhea, "Dextri-maltose
preparations are preferred, for they do not ferment
readily, are rapidly absorbed and leave very little
for fermentation."—*V. A. Blenkle: Protein milks*
in infant feeding, Arch. Pediat., 42:743-760, Nov.,
1925.

ated as the mo
y the carbohydrate. It
ally if given beyond 6
rhoea in many infants,
avoided and if it is de-
unt of carbohydrate, it is
actose by dextri-maltose
red to
best to partly re and 2). In our view cane-
mixtures (Mead's Nos. 1 and 2). In our view cane-
sugar is less suitable than lactose, and if for any
reason there is objection to the use of lactose,
is obtained by the addition of carbohydrates, while
fat and casein are reduced. For this purpose dex-
trimaltose and flour are better than the ordinary
sugars, since they are more slowly absorbed and
have greater efficacy in their powers of controlling
the flora in the large intestine."—*W. J. Pearson*
W. G. Wyllie: Recent Advances in Diseases
P. Blakiston's Son & Co., Phila., 1930.

" . . . I begin to add carbohydrates slowly, by replacing ¼ ounce Casec every two days with ¼ ounce of Dextri-Maltose, preferably Dextri-Maltose Number one. As a rule, this is tolerated. When one ounce of Dextri-Maltose is used, the Casec, of course, should be discontinued."—*J. W. Reed: The etiology and treat*

In cases of malnutrition and indigestion,
"The appetite improves rapidly, and the stools
soon become normal in appearance, if the sugars
are intelligently prescribed. By this I refer to
proper proportions of dextrin and maltose. Wh
there is a tendency to looseness, I have used t
preparation known as 'dextri-maltose,' for t
carbohydrates; . . ."—*M. Ladd: Furt*
homogenized olive oil mixtur
July, 1916.

"When sugar causes diarrhoea one can change the form of it. Mead's Dextrimaltose in small doses is more quickly absorbed and so superior to castor [cane] sugar. Lactose is expensive and seems not to be better than castor sugar."—*H. B. Gladstone: Infant Feeding and N*

"After the preliminary short period of starvation, protein milk should be used. . . . When the diarrhoea has been sufficiently checked, dextri-maltose may be added and gradually increased until from 4 to 6 tablespoons are being used."—*W. L. Denney: Acute nutritional disturbances of infancy, Univ. West. Ontario M. J. 2:132-137, April, 1932.*

"Milk-sugar, which has been so extensively used in the past, should never be used where there is any digestive disturbance. It is not as easily digested as either cane-sugar (granulated sugar) or dextri-maltose. The latter is the best of all sugars to use, especially if there is any tendency to looseness of the bowels."—*A. Brown: The Normal Child; Its Care and Feeding, F. D. Goodchild Company, Toronto, 1923, p. 120.*

For cases of fermentative diarrhea, ". . . the ideal plan of treatment would be to give a food which is low in sugar (the food which that group of organisms thrive on) and high in protein. Calcium caseinate milk accomplishes this purpose. In our series of cases, we found it was necessary to use the casein calcium for from 5-8 days; we then stopped it and added dextri-maltose to the formula."—*A. G. DeSanctis and L. V. Paider: The value of calcium caseinate milk in ferment*
diarrhea, Arch. Pediat. 38

Just as DEXTRI-MALTOSE is a *carbohydrate* modifier of choice, so is CASEC (calcium caseinate) an accepted *protein* modifier. Casec is of special value for (1) colic and loose green stools in breast-fed infants, (2) fermentative diarrhea in bottle-fed infants, (3) prematures, (4) marasmus, (5) celiac disease. MEAD JOHNSON & CO., EVANSVILLE, IND., U.S.A.

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III. VITAMIN A

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Minimum human requirements for vitamin A are influenced by such variables as size of the individual and efficiency of absorption. The minimum daily requirement of infants has been estimated at 1500 International units, based upon the vitamin A content of milk. The need for the vitamin is not supplied by 1200 International units, while 2000 International units appear to be sufficient (2).

Although the minimum requirement of the adult has been estimated to be as low as 500 International units, the optimum level for both older children and adults is probably between 3000 and 5000 International units per day (3). The League of Nations Technical Commission recommends over 5000 International units of vitamin A for the pregnant and for the lactating woman (4).

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(1) a. 1935. J. Am. Med. Assn. 105, 1608
 b. 1936. Ibid. 106, 996
(2) 1934-35. Am. Pub. Health Assn. Year Book, Page 70.
(3) a. 1934. J. Am. Diet. Assn. 10, 296
 b. 1936. Indian J. Med. Research 23, 741
(4) 1936. League of Nations Report on Physiological Bases of Nutrition, League of Nations Publication Department, Geneva.
(5) 1933. Chemistry of Food and Nutrition. H. C. Sherman. 4th Ed. Page 364. MacMillan. New York.
(6) a. 1931. J. Nutrition 4, 267
 b. 1933. J. Am. Diet. Assn. 9, 295
 c. 1936. J. Nutrition 11, 383
(7) a. 1935. J. Home Econ. 27, 658
 b. 1933. Georgia Expt. Sta. Bull. No. 177
 c. 1936. J. Am. Diet. Assn. 12, 231

This is the twenty-fourth in a series of monthly articles, which will summarize, for your convenience, the conclusions about canned foods which authorities in nutritional research have reached. We want to make this series valuable to you, and so we ask your help. Will you tell us on a post card addressed to the American Can Company, New York, N. Y., what phases of canned foods knowledge are of greatest interest to you? Your suggestions will determine the subject matter of future articles.

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Floyd W. Aplin, M. D.

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CALENDAR OF COUNTY SOCIETY MEETINGS

COUNTY	SECRETARY	RESIDENCE	DATE
Adair	N. A. Mercer	Columbia	May 5
Allen	A. O. Miller	Petroleum	May 26
Anderson	J. B. Lyen	Lawrenceburg	May 3
Ballard	F. H. Russell	Wickliffe	
Barren	Paul S. York	Glasgow	May 19
Bath	H. S. Gilmore	Owingsville	May 10
Bell	R. F. Porter	Middlesboro	May 14
Boone	R. E. Ryle	Walton	May 19
Bourbon	S. M. Rickman	Paris	May 20
Boyd	O. B. Daniels	Ashland	May 4
Boyle	Geo. M. McClure	Danville	May 18
Bracken-Pendleton	W. A. McKenny	Falmouth	May 27
Breathitt	Frank K. Sewell	Jackson	May 18
Breckinridge	J. E. Kincheloe	Hardinsburg	
Bullitt	S. H. Ridgeway	Shepherdsville	May
Butler	G. E. Embry	Morgantown	May 5
Caldwell	W. L. Cash	Princeton	May 4
Calloway	Hugh L. Houston	Murray	May 6
Campbell-Kenton	C. A. Morris	Covington	May 6-20
Carlisle	J. F. Dunn	Arlington	May 4
Carroll	J. M. Ryan	Carrollton	
Carter	Don E. Wilder	Grayson	May 11
Casey	William J. Sweeney	Liberty	May 27
Christian	M. A. Gilmore	Hopkinsville	May 18
Clark	R. E. Strode	Winchester	May 21
Clay	J. L. Anderson	Manchester	
Clinton	S. F. Stephenson	Albany	May 15
Crittenden	C. G. Moreland	Marion	May 10
Cumberland	W. F. Owsley	Burkesville	May 5
Daviess	Alice W. Davis	Owensboro	May 11-25
Elliott		Sandy Hook	
Estill	Tracy Wallace	Irvine	May 12
Fayette	John Harvey	Lexington	May 11
Fleming	C. W. Christine	Flemingsburg	May 12
Floyd	J. G. Archer	Prestonsburg	May 26
Franklin	Grace R. Snyder	Frankfort	May 6
Fulton	Gradie R. Rountree	Hickman	May 12
Gallatin	J. M. Stallard	Sparta	May 20
Garrard	J. E. Edwards	Lancaster	May 20
Grant	P. E. Harper	Dry Ridge	May 19
Graves	H. H. Hunt	Mayfield	May 4
Grayson			
Green	S. J. Simmons	Greensburg	May 3
Greenup			May 14
Hancock	F. M. Griffin	Hawesville	May 3
Hardin	D. E. McClure	Elizabethtown	May 13
Harlan	C. M. Blanton	Harlan	May 15
Harrison	W. B. Moore	Cynthiana	May 3
Hart	S. F. Richardson	Munfordsville	May 4
Henderson	Walter O'Nan	Henderson	May 10-24
Henry	Owen Carroll	New Castle	May 31
Hickman		Clinton	May 6
Hopkins	David L. Salmon	Madisonville	May 6
Jackson			May 1
Jefferson	Arthur T. Hurst	Louisville	May 3-17
Jessamine	J. A. Van Arsdall	Nicholasville	May 20
Johnson	P. B. Hall	Paintsville	May 8
Knott	M. F. Kelley	Hindman	May 22
Knox	T. R. Davis	Barbourville	May 28
Larue	D. W. Gaddie	Hodgenville	May
Laurel	Oscar D. Brock	London	May 12
Lawrence	L. S. Hayes	Louisa	May 17
Lee	W. D. McCollum	Beattyville	May 8
Leslie	John H. Kooser, Act. Sec'y	Hyden	May
Letcher	R. Don Collins	Whitesburg	May 25
Lewis	J. D. Lites	Vanceburg	May 17
Lincoln	Lewis J. Jones	Hustonville	May 21
Livingston	William O. Davis	Smithland	May
Logan	Walter Bryne, Jr.	Russellville	May
Lyon	H. H. Woodson	Eddyville	May 4
McCracken	Leon Higdon	Paducah	May 26
McCreary	R. M. Smith	Stearns	May 3
McLean			May 14
Madison	H. G. Wells	Richmond	May 20

COUNTY	SECRETARY	RESIDENCE	DATE
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Marshall	S. L. Henson	Benton	May 19
Mason	O. M. Goodloe	Maysville	May 12
Meade	A. A. Baxter	Brandenburg	27
Menifee	E. T. Riley	Frenchburg	May
Mercer	J. Tom Price	Harrodsburg	May 11
Metcalfe	E. S. Dunham	Edmonton	May
Monroe	George E. Bushong	Tompknisville	May
Montgomery	D. H. Bush	Mount Sterling	May 11
Morgan	W. H. Wheeler. Act. Sec'y.	Betsy Lane	May
Muhlenberg	J. H. Harralson	Central City	May 11
Nelson	R. H. Greenwell	Bardstown	May
Nicholas	T. P. Scott	Carlisle	May 17
Ohio	Oscar Allen	McHenry	May 5
Oldham	S. J. Smock	LaGrange	May 4
Owen	K. S. McBee	Owenton	May 6
Owsley	John R. Aker	Booneville	May 3
Pendleton	W. A. McKenney	Falmouth	May 12
Perry	J. M. Ray	Allais	May 10
Pike	F. H. Hodges	Pikeville	May 3
Powell	I. W. Johnson	Stanton	May 3
Pulaski	M. C. Spradlin	Somerset	May 13
Robertson			May
Rockcastle	Lee Chestnut	Mount Vernon	May
Rowan	A. W. Adkins	Morehead	May 10
Russell	J. B. Scholl	Jabez	May 10
Scott	L. L. Cull	Georgetown	May 6
Shelby	W. P. Hughes	Shelbyville	May 20
Simpson	N. C. Witt	Franklin	May 11
Spencer	No Organization		
Taylor	M. M. Hall	Campbellsville	May 6
Todd	B. E. Boone, Jr.	Elkton	May 5
Trigg	H. L. Wallace	Cadiz	May 26
Trimble	J. J. Gerkins	Bedford	May
Union	D. C. Donan	Morganfield	May 26
Warren	Hal Neel	Bowling Green	May 12
Washington	J. H. Hopper	Willisburg	May 19
Wayne			
Webster	C. M. Smith	Dixon	May 28
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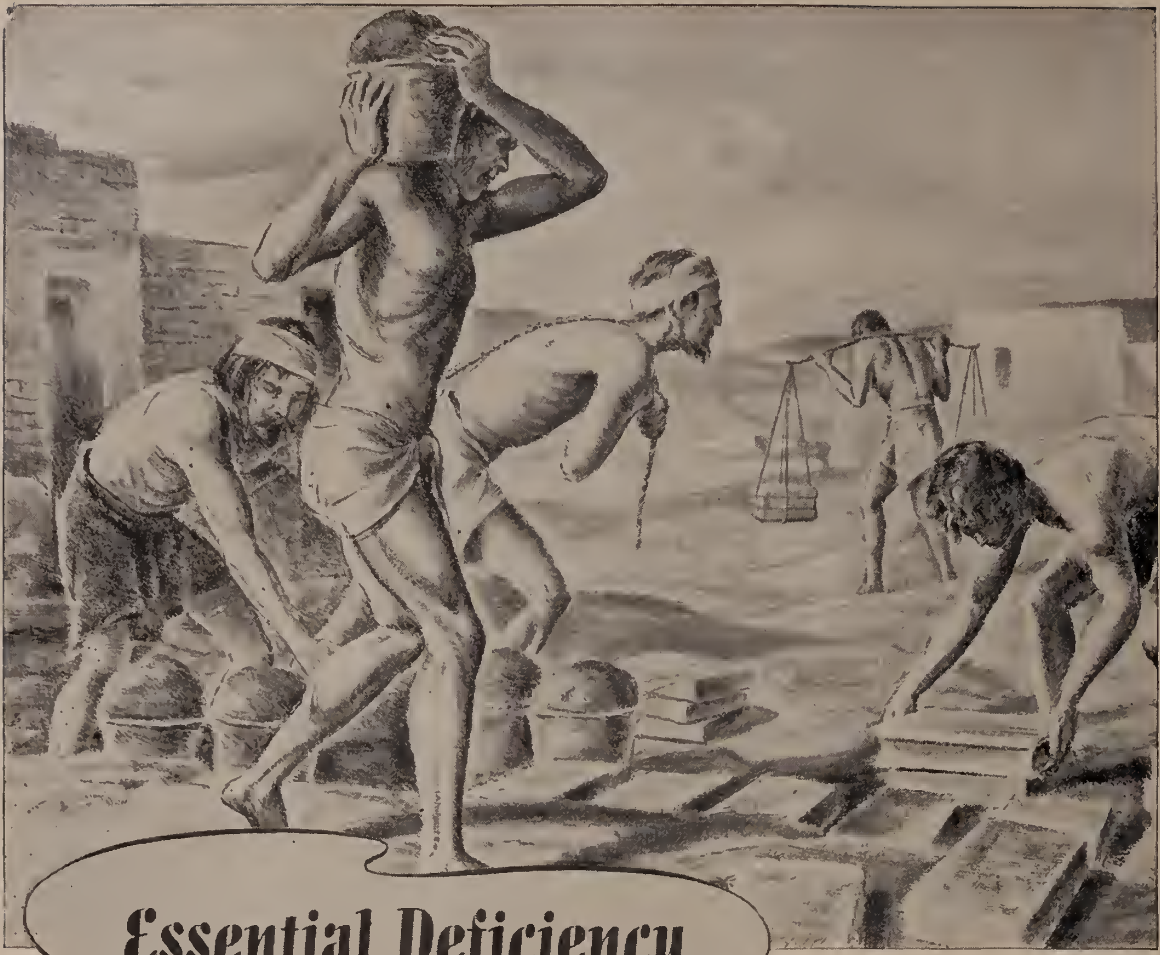

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MEDICAL TOPOGRAPHY OF SHEPHERDSVILLE AND ITS VICINITY BY WILLIAM JEWELL

As mentioned in a previous review of Kentucky medical imprints the earliest books were of a popular nature. The first scientific medical pamphlet which I have thus far located was printed at Danville in 1820. This publication is a graduation thesis submitted to the Medical Faculty of Transylvania University. However, the University Library at Transylvania does not possess a copy although it does have a remarkable collection of its theses. Nor does the Library of the Surgeon General have a copy. The title of this apparently unique booklet is as follows: An Inaugural Dissertation, on the Medical Topography of Shepherdsville and its Vicinity by William Jewell, Danville; Printed by James Armstrong, Office of the "Olive Branch," 1820.

Shepherdsville is the county seat of Bullitt County and is approximately eighteen miles south of Louisville. At the time Jewell wrote of it, Shepherdsville was a village of two hundred inhabitants, while its present population is given as six hundred and thirty-three. The selection, for an inaugural dissertation, of so strange a subject as the topography of a locality deserves some explanation. In the early part of the last century the consensus was that many diseases had a local origin and varied considerably in different parts of the country. It was even believed that a physician trained in a certain locality could more successfully treat diseases prevalent there than a practitioner from another section of the country. Hence, during the first half of the last century, an investigation of the medical topography of a student's home county was often selected as the subject for his thesis. Daniel Drake's monumental work on "Diseases of the Interior Valley of North America, etc" is the finest known example of the "geography" of disease. Actually, consideration of diseases from a geographic and climatologic standpoint harks back to the time of Hippocrates who wrote a book "On Airs, Waters and Places."

Jewell accurately describes the topography around Shepherdsville which is on Salt River. He enumerates the flora and stresses the fact that some of the plants should supplant similar ones which are ordinarily imported. He describes the salt wells which are numerous in the vicinity of Shepherdsville. These wells furnished enormous quantities of brine from which a fairly good quality of salt was made to supply the western country during the early part of the last century. In discussing the treatment of various diseases encountered it is interesting to note how frequently venesection is recommended. Calomel is lauded though caution is advised as regards dosage.

In discussing malaria Jewell is especially impressed with the fact that persons employed around the boiling cauldrons of water in the manufacture of salt rarely have this disease. He asks whether the inhalation of the vapor itself from the furnaces might prevent malaria or whether the saline vapor might possibly destroy the noxious substance in the air, at that time, commonly supposed to cause malaria. The only insects described were "potatoe flies" (Lyttae Vittatae) which he states have, when properly prepared, a powerful cantharides like action. Had Jewell only pursued his study further he might have observed the absence of mosquitoes from the immediate neighborhood of the salt works and thus have been immortalized by the discovery of the relationship of the mosquito to malaria.

William Jewell was born January 1st, 1789 in Virginia. As was the custom at the time, he studied medicine in the office of a local physician for several years and began practice at Shepherdsville in 1813 without a degree. However, he entered the Medical Department of Transylvania University in 1819 and was graduated in 1820. He then removed to Columbia, Missouri where he amassed a fortune largely through business enterprises though he was also a successful and honored physician. His interest in education was such that through a gift he aided in the establishment of the Missouri State University at Columbia and later he founded, in 1849, the William Jewell College at Liberty, Missouri. While supervising the erection of some of the buildings at Liberty, he became exhauted and died there on August 7, 1852.

The William Jewell College, which is a Baptist institution, has continued its successful operation to the present time and constitutes a living monument to its founder.

Emmet F. Horine.

POST GRADUATE COURSE IN INDIANA

The annual postgraduate course sponsored by the Indiana University School of Medicine and the Indiana State Medical Association will be presented in Indianapolis, May 10 to 14, 1937. The schedule this year includes speakers and subjects that will interest every physician. There will be clinics, lectures, panel discussions, practical demonstrations, and clinical-pathological conferences during the hours from eight o'clock in the morning until five o'clock in the afternoon. Evening guest speakers will include Dr. Samuel A. Levine of Boston, assistant professor of medicine in the Harvard University Medical School and author of a recent popular textbook on cardiac diseases, who will be the speaker on Monday evening, May 10th. The following evening, May 11th, Dr. Vernon C. David of Chicago, clinical professor of surgery in Rush Medical College, will be the speaker. On Wednesday evening, Dr. Frank Mann of Rochester, Minnesota, professor of pathology, surgery and experimental physiology in the University of Minnesota, Graduate School of Medicine, will share the evening hour with Dr. Nicholas J. Eastman of Baltimore, professor of obstetrics in Johns Hopkins University School of Medicine, Thursday evening, May 13th, the guest speaker will be Dr. Harold N. Cole of Cleveland, associate clinical professor of dermatology and syphilology in Western Reserve University School of Medicine.

INSTRUCTIONS IN PEDIATRICS

A post-graduate course of instruction in Pediatrics, both clinics and lectures, will be held at the Children's Free Hospital each Wednesday from 9 a. m. to 1 p. m. beginning April 28, 1937, and continuing for ten weeks. This course is conducted under the auspices of the Louisville representatives of the American Academy of Pediatrics. Inquiries should be sent to Dr. Philip F. Barbour, Heyburn Building, Louisville. It is not to late to enter the course.

ST. LOUIS CLINICS

The physicians of Kentucky are cordially invited to attend the St. Louis Clinics, May 24th to 29th. This course will include medical surgery and surgical specialties and anyone who is interested in going to St. Louis at that time will please write to St. Louis Clinics, 3829—Lindell Boulevard, St. Louis.

WHAT KENTUCKY DOCTORS ARE DOING

The profession is welcoming as a new member to its field in private practice in Louisville of Surgery, Dr. R. A. Griswold, who was graduated from Harvard University, B. A. 1921 and the University of Louisville, M. D. 1925, and has had extensive internship in various hospitals in Louisville and in New York. He has contributed seventeen different articles to various medical Journals, the most noteworthy being "Fracture of Both Bones of the Leg," J. A. M. A. Jan. 5, 1935, Vol. 104, pp. 35-38.

Dr. Hugh Leavell, City Health Officer of Louisville, who has received national recognition for his splendid health work during the flood, has given up his private practice to devote his entire time to health work.

Dr. G. M. Lawson, City Epidemiologist and Professor of Bacteriology of the University of Louisville, School of Medicine, has resigned to accept a position as Professor of Preventive Medicine and Bacteriology with the University of Virginia, at Charlottsville, Virginia.

Dr. Annie S. Veech, who has guided the Bureau of Maternal and Child Welfare of the State Department of Health since its establishment, has resigned to accept a position with the Louisville City Health Department. She will still be a consultant and a guidance to her successor. Kentucky physicians will still be glad that she has not left the state and will profit by her wise counsel.

Dr. Robert J. Griffin has been appointed Acting Director of the Bureau of Maternal and Child Health, State Department of Health of Kentucky, to fill the vacancy resulting from the resignation of Dr. Annie S. Veech. Dr. Griffin has been working in the department during the past year.

Dr. J. H. Blackburn, Bowling Green, has been at St. Thomas Hospital, Nashville, recovering from an operation. His friends are glad to know that he will soon be at his professional duties.

Our President, Dr. J. D. Northcutt, has made the announcement that the Committee on Syphilis Control Commission will be composed of the following:

N. L. Bosworth, Lexington; W. U. Rutledge, Louisville; C. C. Barrett, Lexington; W. R. Miner, Covington; W. E. Gardner, Louisville.

THE FUNDUS IN ARTERIAL HYPERTENSION*

W. N. Offutt, M. D.

Lexington.

The retinal changes in arterial hypertension were first observed anatomically by Tuerck in 1850. In 1858 Heymann first noted these lesions with an ophthalmoscope and one year later Liebreich grouped these changes under the term albuminuric retinitis. Though there have been numerous other terms suggested, such as, "nephritic retinitis" by Kahler and Sallmann, "angiopathic retinitis" by Wiebrand and Saenger, "retinitis of malignant hypertension" by Keith, Wagener and Kernochan, this original term is still the most generally accepted and popular.

Fishberg has advocated the term hypertensive retinopathies, for, as he states, the term albuminuric retinitis is subejct to criticism on two scores. First, the fundus changes are much more closely related to arterial hypertension than to albuminuria. In fact, it may be said that these changes do not take place in the absence of hypertension; then, too, in nephrosis when albuminuria is most abundant the changes do not occur at all. Secondly, the suffix "-itis" is objectionable as the lesions are not of an inflammatory nature at all.

On the basis of their pathogeneses the hypertensive retinopathies have been classified as follows:

I. Hypertensive neuroretinopathy.
II. Arteriosclerotic retinopathy.
III. Choked disc due to cerebral edema.

That each of the above is a distinct entity there can be little doubt though there has been, and there still is, present, much confusion. This has been occasioned, I feel sure, by the changes of both essential hypertension and of arterio-sclerosis occurring simultaneously in the fundus of a great many cases.

Adopting this classification I shall discuss briefly each of the above headings:

Hypertensive Neuroretinopathy: This occurs in those forms of Bright's disease which are associated with arterial hypertension and may occur in cases of plumbism with or without evidence of renal disease. Fishberg and Oppenheimer described a case of suprarenal tumor with a fundus of typical hypertensive neuro-retinopathy. According to some authors these retinal changes are almost invariably present in the malignant form of essential hypertension. It is also found in the acute hypertensive toxemias of pregnancy, where the fundus changes are apt to be severe and in these cases there may be an associated retinal detachment.

In nearly all cases of hypertensive neuroretinopathy both eyes are affected, but frequently they are attacked at different times and to a variable extent. Not only do they vary as to degree but also the type of lesion may be different in the two eyes.

Let us now take up the ophthalmoscopic findings. The disc is found to be swollen and red. The margins are indistinct from hyperemia and edema due to an antecedent arterial contraction. The degree of elevation of the nerve head is rarely great, being as a rule only one to two diopters but as much as six diopters have been noted. The redness of the disc is to be accounted for by venous congestion. It is possible that the papilledema is partially caused by an increase of the intracranial pressure. These disc changes appear early and tend to regress as the condition becomes more chronic.

Because of edema and ganglioform swelling of the nerve fibres the retina may present a cloudy appearance, most marked near the nerve head and being less conspicuous toward the periphery. This is just what one would expect for the retinal arteries are endarteries (and the only lymphatics are those which accompany the vessels) and any obstruction to the normal flow of blood through them even though partial and temporary would naturally disturb the nutrition leading to edema and hemorrhage in the area supplied. Also around the entrance of the optic nerve there appear the so-called "cotton-wool" spots which at first have a fuzzy appearance but later they become more sharply outlined, bright, white and shiny, the so-called "hard" spots. Some observers regard the "hard" spots as an entirely separate pathologic process lying deeper in the retina than the "cotton-wool" spots. The "cotton-wool" spots are due to fatty degeneration usually in the deeper layers of the retina and to a more superficial retinal edema. As one would expect under such circumstances the retinal vessels are partly in front of these patches and partly they are covered by them. It is thought that the disappearance of the edema is the reason for these spots appearing more distinct and whiter. The macular region is usually spared in this process. However, these patches may become confluent and form a white zone around the disc.

Elwyn bases the acuteness of the disease upon the cotton-wool patches, the peripapillary edema and the hemorrhages.

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*Read before the Kentucky Medical Association, Paducah, October 5, 6, 7, 8, 1936.

In the macular region appear small white spots radiating from the fovea centralis in a manner similar to the spokes of a wheel with the fovea as the hub to form the stellate figure. Although the point is still debated it is thought that this figure is due to the anatomical arrangement of the external fibre layer (Henle's or Muller's layer) in which the lesions are located. This is a late event and not infrequently is only partially complete or not seen at all.

At an early stage hemorrhages occur in the retina. These generally are flame-shaped and lie close to the retinal vessels; at times even appear to be in the peri-vascular sheathes. Later in the course of the disease the hemorrhagic side of the picture becomes less conspicuous and the picture is dominated by the white spots.

The arteries are distinctly narrower than normal and can not be followed as far toward the periphery as is usually the case. The reflex stripe which normally occupies about one-third of the arterial width is wider and brighter. In 1876 Gowers made the observation that this narrowing of the arteries is the earliest fundus change that can be observed in hypertensive neuroretinopathy. The veins, as I have previously stated, are usually dilated early in the disease. Later they are approximately normal in size though they do appear larger from contrast. Compression of the vein by the arteries where they cross may be marked.

In studying the pathological anatomy of hypertensive neuro-retinopathy we find that most of the changes are confined to an area of five to six millimeters around the optic disc. As the result of an increase in the permeability of the retinal capillaries and arterioles a sero-fibrinous exudate occurs here. When this permeability has become even greater we find the red blood cells passing through the vessel walls into the nerve fibre layer of the retina. In the more superficial layer is to be noted the ganglioform swelling of the nerve fibres.

The "hard" white spots are composed of large phagocytic cells that have taken up and contain fats and lipoids. These cells have come from the pigment epithelium and wandered into the retina to phagocytize the droplets of fat and lipoid which are contained in the supporting tissue of the retina, in the glial cells and in Muller's fibres. Also to be found in these cells are cholesterol esters.

In the vessels the most common finding is an intimal thickening of the endarteritic type with a variable degree of endothelial proliferation. There may also be changes in the adventitia or media. In other cases it is impossible for the narrowing of the arteries to be accounted for by any histologic changes. Thus we are forced to attribute the narrowing to a functional change rather than to any organic lesion. This is, I believe, in accord with the modern conception of the pathogenesis of diffuse glomerulo-nephritis. Drs. Horine and Weiss have pointed out that the vascular changes of essential hypertension are in the smaller vessels or arterioles and are the result of a present or pre-existent elevation of the blood pressure.

As a rule one does not find many changes in the choroid but may have leucocytic infiltrations, fibrinous exudates and arteriolar thickening.

There have been numerous theories advanced on the pathogenesis of hypertensive neuro-retinopathy just as one would expect where we have no conclusive proof.

Chauffard tried to blame the condition on a hypercholesteremia. This was abandoned since in terminal stages of chronic glomerulonephritis the cholesterol content of the blood is only rarely elevated.

The nitrogen retention theory was advanced by Widal, Morax and Weill. As Wagener and Keith have pointed out many cases with typical fundus changes have normal kidney function and no nitrogen retention.

Still another theory that has been deserted is that of Von Michel. He thought the retinopathy to be the result of the arteriosclerotic narrowing of the retinal vessels. This is ruled out by a statement I have previously made, namely, in some cases there are no appreciable blood vessel changes.

Volhard advanced the theory that the retinal lesions are due to an angio-spastic ischemia of the retina, the retinal arterioles being involved in the general vaso-constriction which produces the hypertension. There is no doubt but that the blood pressure either is or has been elevated and that this is the only constantly associated condition.

This theory is basically sound and is strongly supported by Hazelhart, Mylius, Fishberg and others.

The ocular symptoms generally are not striking. Impairment of vision is of variable degree being most marked as a rule in the hypertensive neuro-retinopathy associated with eclampsia. Simon has emphasized color scotomata. I recently had a case whose first indication that he was not in the best of health was sudden loss of vision in his right eye. This was produced by a hemorrhage at the fovea centralis. Although apparently a robust individual in the best of health he died some three months later.

Prognosis: When one discovers the lesions of hypertensive neuro-retinopathy one may be reasonably sure that either essential hypertension or chronic glomerulo-nephritis have entered upon the final stages. As an exception to this we have the hypertensive neuro-retinopathy seen in pregnancy.

It is generally accepted that 90 per cent of patients with neuro-retinopathy die within two years. However it is of interest to note that Kahler and Sallman have reported eight cases with typical eye ground changes in whom renal failure never developed although they were observed over long periods.

The prognosis is not as bad when neuro-retinopathy is associated with acute glomerulo-nephritis or with pregnancy. In this form of neuro-retinopathy (also known as acute albuminuric retinitis or exudative retinitis) the damage to vision is apt to be great if it occurs about the seventh month of pregnancy. Should it not occur until the last two weeks a return of vision may be assured the patient.

The lesions all tend to be absorbed and heal. This is generally overwhelmed by the appearance of new lesions, but should the advance of the renal process be abated a great deal of repair of the fundus damage can be expected.

ARTERIO-SCLEROTIC RETINOPATHY

This is the eye-ground that is seen in individuals who have had an elevated blood pressure for a long time. Fishberg classifies the so-called diabetic retinitis as a form of arterio-sclerotic retinopathy.

The changes that are seen in the eye grounds in this condition are many and subject to wide variations.

Due to circumscribed constrictions and dilations of the lumen of the arteries the arterial blood columns are irregular in outline. The blood vessel walls become more visible and may appear as white streaks along the sides of the columns of blood.

As an early change one finds that the shadow of the vein behind the artery at the point where they cross can no longer be seen. The angle where the artery and vein cross is normally oblique but in an arterio-sclerotic fundus this either is a right angle crossing or tends to be. As a late change may be found ampullation of the vein just distal to the point where the artery crosses over it. This being produced by pressure upon the vein by the rigid artery.

Friedenwald has pointed out that the retinal artery and vein have a common sheath at the point of crossing and suggests that the obscuring of the venous shadow is probably due to the artery pushing the vein back into the retinal tissue as well as to thickening with increased density of the vessel wall. He also found that at this point extension of the sclerotic process could be traced from the artery to the vein.

An irregular arterial reflex is of greater import than a uniform widening of the reflex and, of course serves as a differential point in distinguishing the condition from hypertensive neuro-retinopathy.

The disc is rarely involved which also is important in differentiating the condition from hypertensive neuroretinopathy.

Retinal hemorrhages are a common late finding. These may be few or numerous, and, round or linear depending upon whether they be deep or superficial. Associated with hemorrhagic areas are to be found the "hard" white spots. One does not see the "cotton-wool" spots of hypertensive neuro-retinopathy since edema plays little part in their formation.

Sclerosis of the choroidal vessels and pigment changes may be associated with sclerosis of the retinal vessels.

Of course, one very frequently notes the lesions of hypertensive neuro-retinopathy and of arterio-sclerotic retinopathy in the same fundus for it is not uncommon for hypertensive neuro-retinopathy to develop in an eye that is already the site of arterio-sclerotic retinopathy.

The prognosis in arterio-sclerotic retinopathy is not so bad as in hypertensive neuro-retinopathy. However the prognosis of arterio-sclerosis is definitely worse when the retinopathy is present than when absent. Arterio-sclerotic retinopathy indicates a long-standing hypertension.

There are two other conditions that are often associated with arterial hypertension. Namely occlusion of the central retinal artery and vein. In both of these conditions the onset is sudden and the result is drastic.

In occlusion of the central retinal artery there is sudden loss of vision; everything appearing black. The most common cause is the lodging of an embolus at the bifurication of the central retinal artery.

The main branches of the retinal artery are small, the optic disc is pale, the retina appears opaque and the macular region has a gray-white appearance. In the center of the pale macular region is seen the so-called cherry-red spot, this being the result of edema being absent where the retina is thin and at the fovea one can see the red choroid shining through from behind.

After a few days one may see an interrupted blood stream slowly coursing through the main retinal branches.

The prognosis as for vision is bad but occasionally one has central vision preserved by a patent cilio-rentinal vessel. Fortunately it is quite rare for both eyes to be attacked by this process.

The treatment is directed toward dislodging the embolus and allowing it to course on down into the terminal branches. This can be accomplished only early. For this paracentesis have been recommended. Also various vaso dilators such as amyl nitrite have been used.

Thrombosis of the Central Vein

This usually occurs at or proximal to the lamina cribosa. Retinal arterio-sclerosis is conspicuous and high blood pressure is an almost constant con-comitant. Occasionally tributary obstruction takes place. This takes place as a rule where the artery crosses over the vein.

Loss of vision is fairly rapid though not so sudden nor so complete as in occlusion of the central retinal artery. The veins are markedly engorged and tortuous. The blood contained in them appears unusually dark. The disc margins are blurred and its color increased. Massive hemorrhages occur being as a rule flame-shaped and more abundant near the optic nerve.

Glaucoma not infrequently is encountered as a serious complication. Treatment is directed to preventing glaucoma and toward checking the advance of arterio-sclerosis.

DISCUSSION

H. G. Reynolds, Paducah: In my opinion the average practitioner, with few exceptions, will never master the use of the ophthalmoscope to the point of being able to differentiate the changes in the fundus and interpret them so that they will apply in a given case. Rather I would suggest that there be a hearty cooperation between the ophthalmologist and the one who is managing the hypertension case.

Arterial and venous diseases are by far the most frequent causes of fundus pathology seen with the ophthalmoscope. Arterial spasm is the forerunner of many types of severe hypertension, and according to Clay in a recent lecture in New York at the American Academy, "many of these cases of angiospasm are being overlooked by the ophthalmologist." It is his claim that this fault may be overcome only by painstaking, thorough and repeated examinations in an effort to discover this evidence.

It is this point that I want to emphasize in this discussion; that is, that it is possible for the ophthalmologist to render this aid to the internist, because of the fact that he is daily examining numbers of eyes and has the opportunity to take advantage of this early sign.

Remember that arteriosclerotic retinitis is very common and is frequently overlooked because the hemorrhages are small. Later on there is an irregularity in the lumen and marked arteriovenous compression which are easily discovered.

Quoting further from Clay, he says that "when hemorrhages are present without definite vascular changes, then the hemorrhage is associated with some toxic disturbance. Renal retinitis is characterized by edema of the nerve head and retina with hemorrhages and exudates. The hemorrhages are flame shaped and numerous. The exudates are usually large and often in the macula and may assume a star shape. The vascular changes are quite marked."

He further says, "The first and most common picture in toxemia in pregnancy is arteriospasm, then retinal hemorrhage, with or without exudates. In the more severe cases edema of the nerve head and retina with large detachment."

A. L. Bass, Louisville: I believe that every general practitioner should have an ophthalmoscope at his command and make a routine examination when occasion demands. After testing out the pupils for light reflex and accommodation, with the instillation of one drop of four to eight per cent cocaine hydrochloric solution in the eyes at three to five-minute intervals, in about fifteen minutes in a comparatively dark room you can make a good examination. Using the plus 16 lens you can examine the eye from the anterior surface of the cornea to the posterior lens capsule. With the plus 4, have the patient look up and down and straight ahead to see if there are any floating opacities in the vitreous. With the zero you can make out the fundus.

With this routine ophthalmoscopic examination in many instances I have discovered the first evidence of a patient shipping on a rough sea. Then with a history, ferreting out each etiological factor, it was easy to discovered what the malady was. In this way you may check a disease condition hitherto unsuspected.

The cotton wool spots and white clear spots referred to in the paper are two separate conditions and should not be confused. The wool spots he speaks of generally follow a more acute infection due to edema of the retina and exudate. The white spots are generally old healed hemorrhagic areas following the line of the vessels unless traumatic. In hypertension, an exudate along the vessel wall and slight tortuosity in the terminal vessels are generally the forerunner of a vessel wall break followed by hemorrhage.

In closing, I wish to state that in a good many instances after fundus examination and discovery of the etiological factor or factors, we can prognosticate the recovery, if any. to be expected in the eye.

Charles K. Beck, Louisville: A doctor who refers a patient to another man who renders some service which he does not render assumes some responsibility for the man whom he recommends. If he is an optometrist the doctor should be very certain that there is no pathology connected with his patient's eyes.

Arterial hypertension is one of the many general pathologic states in which the use of the ophthalmoscope is very valuable. Nowhere else in the body can such small vessels be clearly seen and their condition studied. The condition is usually a very reliable index to the condition of vessels elsewhere in the body, especially in the brain.

Tiny hemorrhages may be seen clearly. Where hemorrhages occur in the eye accompanying hypertension they may occur in the brain also and not be so tiny. Where arteries are so tense from increased pressure or so thickened or so hardened as to nick the venules which they cross, we may be reasonably sure that a similar thing is happening in the brain tissue.

The sphygmomanometer is all very well and a very valuable instrument, but it does not tell the condition of the arteries as does the ophthalmoscope.

Frabick and Peet reported on ocular changes mostly toward recovery following resection of the splanchnic sympathetic nerves. Of course none of us would turn to surgery in the hypertensive cases if we could succeed with simpler, less dangerous means. They reported an operative mortality of 4.8 per cent, no improvement 12 per cent, slight improvement 26 per cent, moderate improvement 24 per cent, marked improvement 19 per cent, and apparent cure 14.4 per cent. With such results this method of handling hypertension will not soon become the method of choice but will remain the last resort after failure of other agencies.

Regarded in that light the statistics are not so discouraging. Improvement in vision and eye lesions was mostly concomitant with improvement of other symptoms. It is to be hoped that this is one more agency that can be added to our long list already in use for relieving these unfortunate sufferers.

There was an interesting experiment by Brana and Radian reported in 1934 as to prognosis in this condition. One hundred patients were examined. A year later those still living were re-examined. They were divided into three groups according to the severity of the changes found in the fundus. Where the changes were slight there was a mortality of two per cent, where severe 60 per cent, and where very grave 100 per cent. Again the ophthalmoscope scores.

D. M. Griffith, Owensboro: In this day of frequent thorough examination of the patient by the general physician we specialists very seldom see a case of hemorrhage in the retina before the general practitioner sees it. We do see cases in which there is a narrowing of the artery, frequently prior to the case being sent to us by the general practitioner. I wish to report a few cases that I saw many years ago before the days when we began detecting these cases early. Each case came to me to determine why they had recently lost the sight of one eye. Both had had a retinal hemorrhage with white spots that followed. Both of those cases died within a period of four months. I believe cases where we have hemorrhage following hypertension generally are so late that it is the prophecy of the end, especially if there is an involvement of the kidney.

W. N. Offutt, Jr., (in closing): I only wish to make one remark in closing. I would like to recommend the use of euphthalmine, two per cent or one per cent solution, instilling one or two drops preliminary to examining the fundus. The effect of this drug is only very temporary; it never produces any increase in the tension and it is very easy to constrict the pupil afterwards with eserine or pilocarpine.

HYPERTENSION*

LUTHER BACH, M. D.

Bellevue.

The normal mechanism of the blood pressure may be defined as the force which is exerted by the heart. The maintenance of the blood pressure depends upon the pumping action of the left ventricle and the resistance offered to the flow of blood in the arterioles and capillaries. This resistance is known as peripheral resistance and is equal to the diastolic pressure. The diastolic pressure measures the force expended by the left ventricle to overcome the back pressure exerted by the peripheral resistance. The actual driving force which sends the blood to the periphery is the pulse pressure. The large arteries act as distributing channels and the aorta especially acts as an elastic reservoir. The driving force during diastole is therefore the elastic rebound of the aorta.

A further important factor is the venous flow. For the circulation to be in equilibrium, as much blood must enter the heart from the systemic veins during diastole as is discharged by the left ventricle during systole. For this to occur there must be an unobstructed venous return flow. Although the driving force is exerted by the heart, and aided by the active elasticity of the great vessels, the vasomotor system supplies the contractile tonus which makes possible the maintenance of the circulation.

It is more correct to speak of the average rather than the normal blood pressure. The pressure may be affected by age, sex, weight, time of day, taking of food, drugs, sleep, and the state of mind. These are but a few of many conditions which may affect the blood pressure.

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*Read before the Kentucky Medical Association, Paducah, October 5, 6, 7, 8, 1936.

The mistake has been made of paying too much attention to a single reading of the blood pressure. There is no absolute accuracy in any clinical blood pressure instrument, and a single reading has little or no significance. Variations are so sudden, that within a few moments time the pressure may show wide fluctuation. In the healthy person there is a normal average, which may fluctuate considerably, but which tends to assume the average for the age and sex of the patient.

Faught considers 120 mm. the average systolic pressure for a man 20 years of age. The diastolic pressure is usually from 70 to 85 per cent of the systolic, leaving an average pulse pressure of about 40 mm. The diastolic pressure is quite constant, the variations rarely more than 6 to 8 mm. When the diastolic pressure is found to have a constant reading of 100 mm. or more, hypertension is present. Since the diastolic pressure measures the peripheral resistance and the force which the left ventricle uses, it is a better index to the cardiac work than is the systolic pressure. When the systolic pressure is constantly above the upper limit of normal for the age and sex, it is designated as hypertension, and sooner or later there are changes in the whole circulatory system.

With continued arterial hypertension a larger proportion of energy must be maintained, resulting in muscle fatigue, hypertrophy, limit of reserve, and in increased left auricular and pulmonary venous pressure.

The etiology of hypertension is by no means constant. It occurs as a physical sign in a great variety of pathological conditions. In default of a definite etiology and of specific post mortem appearance, we are reduced to clinical observation. The causative factor or factors may be found under one of the following general heads. (1) Circulating substances including hormones. (2) Influence of the nervous system. (3) Structural changes in the vascular system. (4) Infection and allergy. (6) Constitutional factors.

Disturbance of the glands of internal secretion has been considered a cause. Its frequency in or about the period of the menopause indicates a relationship to ovarian activity. A causal relation to increased thyroid activity has been suggested. Hyperthyroidism often causes hypertension, but patients of the group diagnosed essential vascular hypertension, show almost none of the clinical manifestations of hyperthyroidism, and their basal metabolism, though at times moderately increased, is not increased to such a degree as would be the case with increased thyroid activity. Certain products secreted by the anterior lobe of the pituitary and which acts on the thyroid, suprarenals and gonads has been studied as a possible cause. Vasomotor neurotics develop a rapid pulse together with a spasm of the vessels which result in a temporary rise of pressure. It is important to note that in such cases the blood pressure rises with the pulse rate. There is considerable evidence to support the idea that these individuals have inherited an ill balanced vasomotor system which reacts abnormally to stimuli, and that they merely suffer from a temporary spasm of the vessel, but that they gradually develop an increased tonus of the arterioles. It seems likely that the endocrine system plays an important part with the vasomotor system in the production of this condition. Vascular lesions have been considered as a possible cause, some form of arterio-sclerosis, but in the early stage we can demonstrate no sign of gross arterio-sclerosis, and there is a growing feeling that the vascular lesions are caused by the hypertension rather than the vascular lesions cause the hypertension. The evidence of a time or causal relation to infection or allergy lacks support. Many have attributed nephritis as a contributing cause, but we may be unable to demonstrate any sign of renal disturbance or only in the mildest form. Major reports that all cases of nephritis with a raised blood pressure showed a definite increase in the guanidine of the blood, the majority of hypertensives also showed a raised blood guanidine. No definite cause for the rise in the arterial pressure has been suggested which satisfies all the requirements, nor do we know whether such a cause will ultimately be found in the endocrine system, in some derangement of metabolism or in the central nervous system.

The differential diagnosis of essential hypertension and hypertension due to a diffuse glomerular nephritis is difficult. The cases of essential hypertension greatly out number the cases of glomerular nephritis. It is important, that the presence of a trace of albumin in the urine, with a few casts, is not necessarily indicative of nephritis and may occur when there is slight renal damage associated with high blood pressure. More accurate information with regard to the kidney function may be obtained by the specific gravity test. For 24 hours the patient is allowed neither fluids nor liquid food; during the last 12 hours of this period the urine is collected and the specific gravity ascertained.

It should be at least 1026. In terminal nephritis it is usually under 1010. This test is extremely sensitive and will often indicate slight degrees of renal impairment, which are not shown by the urea test. It is important that the test should be performed more than once, since for some reason even normal subjects will occasionally excrete urine of low specific gravity.

Nothing is known as to the early pathological changes in essential hypertension, but changes will increase with the duration of the disease. It places an increased strain primarily upon the circulatory system. The heart responds to the increased work by hypertrophy. The blood vessels by the development of degenerative changes, depending on their size and location. The most constant vascular change occurs in the small afferent vessels of the kidneys. In the larger vessels there is also a progressive sclerosis. It is especially the sclerotic changes in the renal arterioles, the cerebral and coronary arteries which produce the secondary pathological change that becomes significant in the symptomatology of essential hypertension. The retinal vessels may appear normal though most usually the ophthalmoscope reveals changes in the arteries. When retinal arteries do show changes or when patches of hemorrhage are observed, these patients are much more apt to have a subsequent cerebral accident than are those with normal looking retinal arteries. A continued arterial hypertension results in a local or generalized arterio sclerosis, increasing the resistance in the vascular system, requiring more energy for the ventricular muscle fibers, with the increase in resistance. A decrease in systolic output with physiologic dilatation of the left ventricle, and increase venous pressure, resulting in muscle injury and hypertrophy.

The most common physical sign found in hypertensive cases is cardiac hypertrophy, and probably in all cases of long standing, some degree of dilatation. The gradual cardiac dilatation is evidenced by the gradual increase in the number of mitral regurgitations. That this does not occur in the aortic valve is due to the relative strength or inelasticity of the aortic ring. The accentuation of the aortic second sound is a fairly reliable criterion of a sclerotic or dilated aortic wall which is evidence of a gradual increasing pathology in the aortic wall. The sclerosis in the cerebral vessels is impossible to discern until it produces mental symptoms or a focal lesion as hemiplegia due to either a thrombosis or an actual rupture of a vessel wall; clinically it is impossible to differentiate between these two conditions. Approximately 19 per cent of hypertensive cases terminate in a cerebral vascular accident. The arrythmias are limited to extra-systoles or auricular fibrillation. Extra-systoles occur in a large percentage of these individuals but have no pathological significance. When auricular fibrillation occurs in the hypertensive heart it is frequently a fixed condition. With the onset of cardiac decompensation there is nearly always an increase in the cardiac rate.

In the early stage of hypertension there may be no symptom or sign other than the high blood pressure reading. Many cases are discovered by the routine use of the sphygmomanometer. The cardiac symptoms as palpitation, breathlessness, tachycardia, and a dull ache over the precordium are frequently early, but anginal pain is uncommon except in a late stage. Cranial symptoms which may occur early are headache, vertigo, nervousness, irritability, insomnia, inability to concentrate, tinnitus and epistaxis. It is impossible to say how long the hypertension may have preceded the symptoms. In the later stages associated with marked arteriosclerotic changes in the vessels, the nature of the manifestations varies widely.

Complications as congestive failure, angina of effort, coronary thrombosis, or a cerebral accident are the limiting factors to a much greater extent than the height of the blood pressure.

The prognosis depends upon the condition of the cerebral vessels, the myocardium, coronary arteries and renal function, rather than the height of the blood pressure. With normal renal function and no cardiac symptoms many of these patients live a long and fairly active life. In general an increased systolic pressure with proportionately less increase in the diastolic pressure is of better prognostic import than a proportionately increase in each. A relative high diastolic pressure indicates a more serious condition than the converse.

In the treatment of hypertension, prophylaxis is of importance, particularly in families with cardio vascular disease. Moderation must be stressed, bearing in mind the anxious temperament which these patients possess. Habit must not be allowed to triumph over reason. No disease was ever created or aggravated by the use of restraint and self consideration. The patient's life may be prolonged and kept more comfortable if properly managed. These patients should guard against obesity and undue mental strain. It is important to know your patient, understand his habits of eating, drinking, working, worrying, and playing. Not until the patient's daily life is known, including often confidential information as to family or business worries, is the physician really ready to advise. Readjustment to a proper level of many phases of daily life is essential. Many of these patients lead arduous lives, full of business or family difficulties, which they need to avoid and it may mean the revision of the habits of a life time to secure the relief of anxiety and mental worry. This is often an economic rather than a medical problem. Mental and physical rest is important. Even the long rest at night, or an occasional day or two in bed has its effect. There are many occupations that can be continued, with the proper rest, until complications develop. Many hypertensives are over weight. Obesity increases the cardiac load and may lead to a premature congestive failure. It also hinders respiratory movement. Reduction of weight in obese patients is of special importance for the prevention of dyspnoea. It is to be secured by exercise and dieting. There is no reason why steady exercise should not be advised, provided that it does not induce breathlessness. Some control of the diet is necessary for hypertensive subjects, since they have often been habitually excessive eaters. No diet has a specific effect, but the reduction of weight relieves symptoms. The essential point is to reduce the amount of food taken. The total number of calories taken are far more important than the exact nature of the food. 1200 calories daily is usually ample. Protein is in no way harmful to most of these patients, and sufficient protein should be advised to avoid harmful metabolic changes and anemia. Alteration of salt intake seems to have little effect and the restriction of salt and fluids in uncomplicated cases is unnecessary. Salt and fluid restriction probably help the failing heart by reducing its work. A few drugs must be reckoned as indispensable in the treatment of hypertensives. Sedatives and hypnotics are the means of securing some measure of reassurance. Though their use is based largely on general principles, the symptoms may be relieved to some extent, while the height of the blood pressure is influenced far less, though a moderate fall may be recorded. Simple sedatives as phenobarbital and bromides are to be preferred. When given for insomnia full doses should be given. Morphine for the treatment of an acute attack of cardiac asthma or a complicating coronary thrombosis. Nitrites for the angina of effort and digitalis and salyrgan when there is cardiac failure. When congestive signs fail to improve during rest and the administration of digitalis, an astonishing diuresis with clinical improvement may often be obtained from salyrgan or one of the other organic mercurial diuretics given intravenously or intramuscularly on alternate days. Nitrites are still widely used, though of little or no value. Iodides have little if any effect except when syphilis is present. Liver injections and various other remedies have been used, but until we can know the cause of essential vascular hypertension our treatment must be limited to symptoms and definite clinical conditions as they arise.

Considerable work in surgery has been done within the past few years in an effort to relieve symptoms and prolong life. It has been proved that suprarenal tumors, hyperthyroidism, eclampsia and numerous other lesions can produce an increase in the pressure level. Therefore investigators have attacked the problem of essential hypertension by operative procedure on the thyroid, suprarenal glands and the vasomotor nerves.

Total ablation of the thyroid according to Cutler does not reduce the pressure materially. Crile states that denervation of the suprarenal glands offers but slight relief. The sudden drops in systolic and diastolic blood pressure following the administration of spinal anesthesia suggested the possibility that in the treatment of essential hypertension similar effects might be produced by operations that would denervate large vascular areas. Although the etiology of the disease is unknown, it is apparent that high blood pressure results from a fault in the neurovascular mechanism. Hereditary influence lends support to such a theory. Adson and his associates submit the results of surgical procedures carried out in hypertension. The purpose of the operation is to destroy the vasomotor innervation to a large vascular area in order to make those vessels which are deprived of their vasoconstrictor impulses unable to respond to the central mechanism and therefore unable to take part in the general phenomenon of vasospasm. While the vessels that have not been denervated continue with spasm, the denervated vessels dilate instead and act as reservoirs. The immediate effects in many cases have justified the surgical treatment, and they have encouraged the authors to continue with the operative measures, in the hope that subdiaphragmatic splanchnic resections with removal of the upper two lumbar ganglions and resections of the adrenals may be more effective in controlling or relieving symptoms of essential hypertension.

The interval following these surgical procedures is too short to prognosticate what the ultimate results will be.

SUMMARY

1. Essential vascular hypertension has been considered as a disease in itself until some definite etiological factor can be suggested which will satisfy all the requirements.

2. Nothing is known of the early path-

ological changes, but with duration of the disease the strain is placed primarily on the circulatory system, resulting in hypertrophy and dilatation of the heart, with degenerative changes in the vascular system.

3. Treatment is limited to symptoms and definite pathological changes as they develop. Special emphasis is placed on having a knowledge of the patient's daily life and the proper management of his activities.

4. Surgery has nothing definite to offer us as yet, but is being done in an effort to relieve symptoms and prolong life.

DISCUSSION

Morris M. Weiss, Louisville: There are certain rare causes of hypertension, such as suprarenal tumors, polycystic kidneys, or basophilic pituitary adenomas, but the vast majority of cases of hypertension are of unknown etiology, hence the term "essential hypertension."

It is true that at autopsy generalized arteriolar sclerosis is found, which is pathognomonic of hypertension, but here again the ultimate cause for these pathologic changes is unknown.

The prevalence of hypertension is not fully appreciated. For instance, at the Louisville City Hospital approximately 70 per cent of all heart disease is the result of high blood pressure. High blood pressure in Kentucky today is the chief cause for death. We arrive at that figure when we include the number of deaths that it causes from heart disease, from chronic nephritis and from apoplexy. That total exceeds the accepted chief cause for death, namely, heart disease. This particularly applies to the Negro. In this race not only is hypertension more common than in the white, but it occurs at an earlier age and seems to run a more rapid course.

It is important to remember that there are many factors which will temporarily or permanently lower blood pressure. For instance, an acute coronary occlusion is the chief cause which will often permanently lower the blood pressure of a hypertensive. Chronic myocardial failure tends to lower the pressure slowly. Other causes, such as acute infections, severe anemia, hemorrhage, shock, surgery, and so on, will often lower the blood pressure of the hypertensive.

Were such a patient examined at a time when the blood pressure was low, the true cause for certain pathologic states such as cardiac hypertrophy might be readily overlooked. For instance, it is common to see a patient in severe congestive failure with marked cardiac enlargement with a normal or low blood pressure and no valve lesion, no severe anemia, no pulmonary emphysema or other recognized factors which might cause that cardiac enlargement. In the past we were wont to consider such cases under the diagnosis of mitral insufficiency or possibly chronic myocarditis, but today we realize that an antecedent hypertension might have caused such pathologic changes. Even if a history of a pre-existent hypertension is unknown, the physician should look for clinical or pathologic signs in the patient for such a pre-existent hypertension. Under these circumstances a more correct etiologic diagnosis of the heart patient would be made, and it is probable that the high incidence of hypertension would be recognized.

C. W. Dowden, Louisville: Two things have occurred to me as I listen to the paper of Dr. Bach: one is the inadvisability of too frequent determinations of the blood pressure. Most of these patients are quite nervous and are hypertension conscious, and daily, or even weekly estimations, serve to keep them apprehensive. If there was much to be done about it, it would be a different thing, but probably nothing serves better than to conserve, as far as possible, their peace of mind, and this certainly is not accomplished by frequent pressure estimations. Once they have been instructed in the art of living, which means sufficient rest, proper diet, regulated exercise, fresh air and sunshine it is doubtful if what else we do is of any particular value, and there is even a question of its doing harm. That brings up the question of relative hypotension. In these patients, their hypertension is a compensatory affair, and too rapid or too great a reduction will result in marked physical and sometime mental discomfort. When a patient with a blood pressure of 200, or more, with a relatively high diastolic pressure, and experiencing no symptoms it not infrequently happens that by too great or too rapid reduction of his pressure that symptoms, sometimes quite distressing result. In other words, this is what is known as relative hypotension in hypertensive cases and may be compared to the individual with a normal blood pressure of 130 who for some reason or other has his blood pressure lowered to 100. We are all familiar with this type of hypotension and it should always have due consideration in the hypertensive cases also.

Prostatic Hemorrhages.—Pasteau believes that hemorrhage from the prostate occurs much more frequently than is generally believed. Traumatism is frequently responsible, but spontaneous hemorrhage is far from rare. The most important method of diagnosis of prostatic hemorrhage is furnished by catheterization. The most important aspect of treatment consists in avoidance of trauma so that the prostate may not be injured. However, once bleeding has set in, complete removal of the clot by aspiration becomes necessary. If bleeding continues in spite of these measures, suprapubic cystotomy must be performed.

THE RELATION OF DIABETES TO SURGERY*

Irvin Abell, M. D.

Louisville.

It is well within the memory of many in this audience that the occurrence of a surgical lesion in a diabetic was regarded as heralding the approach of dissolution. At that time diabetics were regarded as extremely bad surgical risks, operations were undertaken mostly for emergencies, always with much trepidation and ended only too frequently in death from coma and acidosis. Today with the help of insulin and modern knowledge concerning perverted metabolism and the means for its correction not only emergency surgery but that looking toward repair and prophylaxis is done with reasonable assurance of success. As a result of modern methods more diabetics are reaching adult life and more advanced years and being subject to the surgical conditions of the respective age levels they show an increased percentage in surgical practice. In well organized clinics with close cooperation between the medical and surgical staffs the mortality from operations on diabetics compares very favorably with that for similar lesions in corresponding age levels on non-diabetics. That such has been made possible represents a triumph for modern medicine but its accomplishment necessitates meticulous care in carrying out the various details of treatment and in the exercise of medical and surgical judgment. While diabetics can be prepared for surgical procedures certain factors combine to make them potentially poor surgical risks: these are, an increased susceptibility to shock, intolerance to trauma, cardio-renal lesions, lessened recuperative and reparative powers, the ever present threat of acidosis, coexistant arterio-sclerotic changes, depletion and dehydration from the effects of starvation, diarrhoea and vomiting, and the disturbing effect upon metabolism exerted by fever and infection. In estimating the surgical risk of a patient with diabetes these problems must be borne in mind in addition to the immediate surgical condition presented and further consideration given to (1) complications, (2) hazards peculiar to the abnormal metabolism of diabetes, (3) the effects of insulin and (4) the pathology associated with diabetes. In general it is true that the higher the blood sugar, the graver the prognosis although the extent of hyperglycaemia is not always an absolute index of the severity of the disease. Routine urine examinations are usually relied upon to exclude diabetes before operations and while glycosuria is usually present in hyperglycaemia exceptions are not infrequently noted in surgical cases: certainly the correllation between the amount of sugar in the urine and in the blood is not a close one. Hypoglycaemia may be noted in debilitated, emaciated patients and must needs be corrected before operation is undertaken. Acidosis greatly increases the risk to the surgical patient: while emergency operations can and must be done in the presence of acidosis, operations of choice should be deferred until the urine is free of Ketone bodies.

The hazards peculiar to the abnormal metabolism of the diabetic are to be found in the increased metabolism of hyperthyroidism, infection and overfeeding and in the decreased metabolism of exhaustion from undernourishment. The more rapid and more recent the exhaustion, the graver the condition of the patient. The use of insulin plays an important part in estimating the danger to the patient and the suitability of the latter for operation. The common mode of death of surgical diabetics before the introduction of insulin was acidosis or coma: today this is rarely seen, the cause of death being directly attributable to the surgical lesion. Insulin prevents or cures acidosis and enables the patient to take a fuller diet, promoting increased resistance and favoring recovery.

The pathology associated with diabetes that is important from a surgical standpoint is to be found in the arteries of the extremities, particularly of the legs. The vast majority of diabetics coming to operation are above forty years of age with a high percentage of these between the ages of fifty and sixty, at which period of life arterio-sclerosis is a common finding. In the non-diabetic the changes in the arteries of the extremities are largely found in the middle coat consisting of calcification with thickening of the intima and deposit of atheromatous material. In addition to this typical arterio-sclerosis Warren and Smith have described another type of arterial lesion in the diabetic consisting of endothelial proliferation and fatty deposition in the intima. This type may develop fairly rapidly or may be present for long periods before gangrene supervenes. In the slowly developing cases of both types the best development of collateral circulation was found while in some cases of short duration advanced intimal change and absence of compensatory collateral circulation obtained. Diabetic gangrene is rare in the youthful patient being most common after the age of fifty. Doubtless its frequency at and after this age is associated with the increased incidence of general arterio-sclerosis at this age. The effect of chronic hyperglycaemia and the disturbance in the metabolism of fats, particularly the results of long continued hypercholesterolemia, which is said to promote calcification and obliteration of the lumina of the vessels, are factors which are believed by many to be of great importance. The preparation of diabetic patients for operation will vary with the absence or presence of infection in the lesion for the relief of which the operation is to be undertaken. In the absence of infection the time element is not a factor, consequently the surgical procedure can be deferred until such time as the objectives of preparatory treatment are attained: these are, first, freedom from acidosis and glycosuria on a diet providing at least 15 calories per pound of body weight with or without the use of insulin and, second, the procurement of the most advantageous conditions for operation both as regards the nutrition of the patient and protection from infection. In the elective cases that permit of such preparation the results at the present time are uniformly satisfactory, the control of the diabetes allowing the case to pursue its ordinary surgical course. While the practice of starving patients before operation has largely been discarded it certainly has no place in the preparation of the diabetic: adequate reserve of glycogen, fluids and salts are essential and these can be maintained only by proper nutrition, hence, feedings should be continued until a few hours before operation. In the cases in which insulin is employed in the preparatory treatment, it should be discontinued when the feedings are discontinued: to give it after this time raises the danger of hypoglycaemia and of increasing the susceptibility to shock.

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*Read before the Kentucky Medical Association, Paducah, October 5, 6, 7, 8, 1936.

In the presence of surgical emergencies nothing is to be gained by delay: in fact when these possess infection as a feature, delay may be actually harmful. Infection tends to increase the sugar content of the blood and to act as an inciting cause of acidosis and coma; futhermore it limits the efficacy of insulin, hence the necessity for its control or elimination without delay. After the administration subcutaneously of 20 to 30 units of insulin and of 1000 cc. of saline solution intravenously the operative procedure is carried out, after which the further treatment of the diabetes is based on the blood and urine findings. The operation should be carried out as expeditiously as is consistent with thorough work, accurate hemostasis and the minimizing of trauma. It is rarely necessary to give insulin during an operation: the dehydration resulting from the acute illness should be combatted by the administration of fluids, preferably saline, which may be started during the operation. The choice of supplying it subcutaneously or intravenously will be made upon the condition of the patient, particularly the cardio-vascular system since it is advisable to avoid placing an undue strain on a weakened or damaged heart. While intravenous and subcutaneous administration of glucose is frequently necessary, oral feeding should be started as soon as the patient's condition allows since glucose, given parenterally, escapes the glycogen barrier of the liver and is in part excreted in the urine, rendering urinalysis useless as a gauge of the patient's progress. The selection of the anesthetic will depend on the surgical lesion and its location. General anaesthetics, notably chloroform and ether, produce some degree of hyperglycaemia and acidosis in normal persons which postoperative vomiting and food restriction intensify. Infiltration anesthesia with novocain when the lesion is accessible to this method, is ideal. Spinal anesthesia is satisfactory when the lesion involves the pelvis or legs: some surgeons prefer it for all abdominal lesions, while others feel that the increased dose demanded for upper abdomenal operations make it more dangerous than inhalation anesthesia. Ethylene and nitrous oxide produce but little increase in the blood sugar content and as a rule cause but little nausea, allowing the patient to take and retain food comparatively early. If abdominal relaxation is essential to expediting and shortening the time of operation or to reducing the degree of surgical trauma the addition of a small amount of ether to the ethylene or nitrous oxide will secure it with a risk less than that entailed by prolonged manipulation. The after care as well as the preliminary preparation of the diabetic should be entrusted to one thoroughly conversant with the management and treatment of diabetes. The successful solution of the perplexing problem presented by the surgical diabetic hinges upon the cooperation of the internist and the surgeon, each of whom must be qualified in this particular field, since the joint knowledge and service of both are essential to it. The frequency with which gall bladder disease is associated with diabetes has inclined many to the view that a causal relationship exists between the two, the disease in the pancreas being held secondary to that in the gall bladder. The most frequent age for the onset of diabetes is fifty years or well within the common age incidence of gall stones while the longer duration of diabetes under the present regime of treatment allows greater opportunity for the development of gall bladder disease as well as increased occasion for its recognition. Regardless of this observation the improvement and at times disappearance of diabetic symptoms noted following the removal of diseased gall bladders whether or not due to the favorable influence which the clearing up of foci of infection in general exerts upon this metabolic disorder would seem to justify surgical intervention both as a prophylactic and curative measure. The relationship of hyperthyroidism to diabetes presents points both of interest and difficulty. That the assimilation of glucose is disturbed in hyperthyroidism is shown by the glucose tolerance test and by the frequency with which glycosuria is noted both in primary hyperthyroidism and in adenomata with secondary hyperthyroidism. It is at times difficult to say, whether or not, the disturbed metabolism represents a true diabetes. Joslin and Lahey offer a somewhat different standard for the diagnosis of true diabetes in the presence of hyperthyroidism in requiring a higher blood sugar than for the standard diabetic. The dietary control in such cases is manifestly trying on account of the augmented metabolism due to the increase in thyroxin. The latter increases the danger of diabetic acidosis and renders insulin less effective, a situation analogous to that presented by infection. On a low carbohydrate diet there is an increase in the amount of acetone bodies in the blood: on a high carbohydrate diet it may not be possible to attain the objective of keeping the urine sugar free but it is possible and important to prevent the appearance of the acetone bodies. Insulin, diet and iodine may be simultaneously employed in carrying such patients through operation after which they respond more readily to the diabetic regime.

The group of diabetics showing the greatest mortality is the one in which complications arise as a result of infection, cellulitis, carbuncles and gangrene. Here, as elsewhere, an ounce of prevention is worth a pound of cure. The practice in some clinics of giving diabetic patients printed instructions regarding the hygiene of their bodies is a commendable one and could well be extended by the practicing physician to his known diabetic patients. Scrupulous body cleanliness is of paramount importance and is to be attained by daily bathing with soap and water, avoiding too vigorous rubbing. When the skin is unduly dry emollients in the shape of oil or lanoline are useful. Light woolen socks or stockings, neither too short to produce pressure nor too long to allow wrinkling, should be worn with well fitting shoes. Extremes of heat and cold are to be avoided. The care of blisters, minor skin injuries, corns, bunions and ingrown nails should become the duty of the doctor, not of the patient. Chronic infections about the feet, bacterial and parasitic, should be searched for and treated. The subjective symptoms of deficient circulation in the feet and legs are discoloration, coldness, numbness and pain: regardless of the presence or absence of these warning symptoms, a determination of circulatory efficiency should be made in every diabetic, particularly if the patient has attained the age of fifty. The X-ray is of value in revealing the calcification of the larger arteries but does not show the condition of the capillary bed upon which the development of collateral circulation depends. There is no test, chemical or laboratory, which gives an accurate estimate of efficiency of collateral circulation. This is to be determined by clinical examination of the arterial pulsation, the color, the temperature and the reaction to various positions of the affected leg. Arterial pulsation may be absent in a foot in which collateral circulation adequately compensates for it. Such a foot, however, lives under a continual threat of disaster. In the light of the knowledge that practically all diabetics at or above fifty years of age show some change in the peripheral arteries it would seem advisable to attempt by means of exercises similar to those of Buerger or by passive mechanical means to stimulate the development of collateral circulation before the advent of complications to the danger of which its absence so largely contributes.

Gangrene complicating diabetes occurs clinically in three groups, one in which the condition is primarily due to deficient circulation, one in which the condition is primarily due to infection, and one in which a spreading infection is engrafted or superimposed upon deficient circulation. Three types of gangrene are observed, the arterio-sclerotic, the embolic and what from certain distinctive features may be termed diabetic gangrene. The arterio-sclerotic is similar to the senile gangrene of non-diabetic patients.

The embolic or thrombotic results from an embolus or occluding thrombus due to an acute infection. In the so-called diabetic gangrene arterial occlusion has occurred slowly and extensive, adequate circulation has developed: a minor injury provides the wound of entry for infection, the resultant swelling shutting off so much of the blood supply as to cause gangrene. The deficient circulation is inadequate to a localization of the infection, its spread occurring along the cellular planes, veins and lymphatics. It is in this group that septicaemia frequently occurs with a consequent high mortality. With the exception of the embolic or thrombotic type arterio-sclerosis of both common and distinctive character forms the background of all diabetic gangrene. Aside from its role in producing arterio-sclerosis diabetes prepares the soil for gangrene by its influence on the nutrition and metabolism of the tissues, the actual precipitation of the process being due oftentimes to what might seem an inconsequential trauma. The treatment of gangrene complicating diabetes will depend upon its extent, disabling pain, determination of collateral circulation and the pressure and degree of infection. Time does not permit of a detailed discussion of the factors influencing choice of operation but they may be generalized as follows: (1) Incision and drainage is rarely indicated alone but may be combined with amputation of a toe in cases in which collateral circulation is sufficient to localize the infection to the region of the toe. (2) Amputation of gangrenous toes may be undertaken, (a) when there is good pulsation in the dorsalis pedis artery; (b) when the gangrene is fairly well demarcated in the absence of pulsation in the dorsalis pedis artery providing the foot is warm and of good color especially when dependent: (c) when the diabetes is mild, the pain in foot is negligible and the gangrene and accompanying infection remain localized. Major amputations are indicated in cases presenting: (1) Definite gangrene of one or more toes in the absence of a dorsalis pedis pulse provided the foot or a part of the foot is cold and of poor color or provided there is a definite point of temperature change in the lower leg; (2) beginning gangrene with spreading infection involving the deeper structures of the foot; (3) deficient blood supply without actual gangrene in which pain is not relieved by conservative measures; (4) a viable foot as far as circulation is concerned but in which prolonged sepsis endangers life because of diabetes or complicating conditions. One may be pardoned for reiterating the statement as to the importance of mutual understanding and close cooperation of surgeon and internist in the treatment of surgical diabetics since such is probably the most important single factor in the successful management of diabetic gangrene. Carbuncles in non-diabetics usually present as localized areas of infection: when death follows it is due to septicaemia, metastatic abscesses and exhaustion. Localization of the infection depends upon the vitality and resistance of the patient. The relation between diabetes and infection is such that these protective qualities are deficient in the diabetic with the result that localization is absent or imperfect, large areas becoming involved in the septic process, from which the absorption of huge amounts of toxins augment the diabetic disorder with a breakdown of the patient's local and general resistance. Early and efficient treatment are imperative: this implies, (a) rational treatment of diabetes; (b) the proper use of heat to hasten localization; (c) operation properly done. Operation is indicated as soon as the central portion of the lesion has softened. We employ a crucial incision, each limb of which extends to the margin of the infiltration. The skin flaps are undermined and the tissue showing purulent infiltration is excised. The remaining cavity is charred with the actual cautery, the point of which is thrust well out into the surrounding indurated tissue until its margin is reached. The resulting wound is packed with vaseline gauze and changed as needed for cleanliness. When the resulting defect is unusually large pinch grafts are employed to facilitate healing when the granulations have become healthy. We have not employed vaccines, autogenous blood injections, methenamin, or X-ray therapy in the treatment of diabetic carbuncles and believe that if used at all, such usage should be in conjunction with the above outlined treatment.

The writer desires to acknowledge his indebtedness to several other authors, particularly to Drs. McKittrick and Root from whose book, Diabetic Surgery, he has liberally and literally quoted.

DISCUSSION

A. Clayton McCarty, Louisville: I think it is worth while emphasizing the fact that there still is a place for surgery in diabetes. We are prone so often to think, because of the old and the new insulin, that surgery is almost a lost art in this condition. Thus we see a number of patients who sit around with toes which are about to drop off, who should have had early surgical attention. I think every medical man must realize that point.

Furthermore, if surgery is attempted it should be a reasonably radical procedure; that is, as Dr. Abell has brought out so well, the surgeon should go high enough to get into good vascular space, to give good healing and a good stump.

The preparation and medical care of these diabetics is an interesting problem. Dr. Abell has stressed at least eight conditions which more or less complicate any diabetic person, when you consider him as a surgical risk. Dr. Deaver used to say: "Cut well, sew well and get well." I think one can think of these diabetic patients as: "Prepare well, cut well and get well." They should be what we call "controlled diabetics." The fluid addition, the use of insulin, relief of acidosis, and the other means of preparation which we always think of in connection with these patients, are very important.

The type of anesthesia has been mentioned. I believe it is important to stress this only because in smaller clinics spinal anesthesia, local anesthesia and gas are not so regularly used as in the larger hospitals. If diabetic patients are given spinal or local, or if not one of those two, gas, I think they stand a much better chance of coming through the operation in good condition.

In my own mind I classify these cases as "surgery in diabetes" and "diabetic surgery." Surgery in Diabetes for instance, is operating upon a man who has to have his gall bladder removed, quite apart from the fact that he is a diabetic; while Diabetic Surgery means amputations, the treatment of carbuncles and other things which are associated with the diabetes itself. Either group demands careful preparation and skillful surgery.

Dr. Abell has mentioned the fact that hyperthyroidism, pathological gall bladder and liver conditions are common in the diabetic. What seems more unusual is that pancreatic and kidney diseases are so rare, when it is recalled that diabetes is a pancreatic disease, with much sugar passing through the kidneys.

Arterio-sclerosis is the road over which many of these diabetics travel to surgery. Diabetic surgery means then, the handling of cases which offer this complication in addition to those which have already been mentioned (malnutrition, acidosis, etc.) Early diagnosis in diabetes with sugar and cholesterol control means much less arterio-sclerosis and surgery in later life.

You have heard in the last hour a great deal about the new type of insulin. It is necessary for me to say only that in about eight months of personal experience with protamine insulin, many fine results have come in using this new insulin for the preparation and care of patients who have gone on to surgery. The manufacturer of the protamine insulin has reported to me on Monday of this week that full statistics are not available at this time. They have been getting in statistics from Dr. Paulin, Dr. Simpson, and men of this kind, and have data on some 2000 cases where Protamine Insulin has been used. With the new Insulin, dosage can be reduced on the average from three to two doses daily, and the amount up to 20 per cent; so the improved insulin gives us a new weapon in our armamentarium, for the handling of medical and surgical diabetics.

Frank Boyd, Paducah: A carbuncle in the diabetic is oftentimes the most troublesome complication, and it is of the utmost importance to remove the carbuncle with the cautery knife as soon as the diagnosis is made.

As Dr. Abell has said, it is important to recognize an endarteritis in a diabetic, because diabetes does lead to arterio-sclerosis and those subjects very frequently have that condition, producing gangrene.

In the amputation of feet or legs following diabetic gangrene, great care should be taken that the amputation is high enough to have sufficient circulation to sustain the stump, or, as often happens, a second amputation will be required. The cases that I get as a rule already have established gangrene or carbuncle when I see them.

Teamwork, judicious use of insulin, thorough cleanliness and avoidance of trauma permitting sepsis to occur, together with proper feeding, should be included in all methods of treatment of these conditions.

A. D. Willmoth, Louisville: In the question of dealing with carbuncles in the diabetic patient, long ago I ceased to operate with the cutting current or with a knife on a carbuncle in a diabetic patient because of the fact that you open up areas and allow infection to take place from the original site. The cutting current is not hot enough. If you will use electrocoagulation (and I have had 117 of these without a single death) and make a circle around the carbuncle out as far as you think the skin is undermined, and do that the first thing you do by electrocoagulating, and then go in the carbuncle and electrocoagulate the rest of it and take a curet and scrape it out until you get down to perfectly clean tissue, and if you see a bubble of pus coming up through the tissue do a little more coagulation at that point, then when you are through spark over the entire area by arcing, your patient will have a normal temperature within five or six hours if it is done correctly, and you will have no shock from it, you will have no pain from it, and you will absolutely control all the infection. There is only one case in which you cannot use this method, and that is on the upper lip because there you destroy the entire lip, but carbuncles on the neck or on other parts of the body can be easily controlled and there should be no mortality if we get them anything like early enough so they are not completely moribund when they go onto the operating table.

J. B. Lukins, Louisville: Dr. Abell emphasized in his paper the importance of complete hemostasis in these cases. This we all appreciate, of course. I do not recall that he mentioned the danger of secondary hemorrhage.

Gall bladder operation perhaps is the most common surgery in diabetics outside of amputation for gangrene, and in two cases I have seen rather alarming secondary hemorrhage in gall bladder operations in diabetics.

SYMPOSIUM ON OBSTETRICS AND PEDIATRICS

PUERPERAL INFECTIONS*

Russell E. Kinsey, M. D.

Williamstown.

Puerperal infection may be defined as an infection of the uterus and its surrounding structures by various bacteria, producing pathology after the termination of pregnancy. For many years it has been the prime factor in the causation of maternal mortality.

In view of the great importance attached to the earliest recognition of the contagious nature of puerperal infections, mention of a few important historical facts seems appropriate. In 1793 White reported important clinical observations which led to general recognition of the great danger of transmitting infection to parturient women. Semmelweis, in 1847, while in Vienna, demonstrated the similarity between puerperal infections and other infections. It is still very prevalent, indeed it is perpetually endemic, for it kills approximately one in four hundred women delivered of full term children, and it leaves as incurable invalids at least ten times this number.

It is more frequent during the months of January, February, and March, the time when the general health of the people is below par, and more prevalent during epidemics of lagrippe, head colds, pneumonia, scarlet fever, and erysipelas. It is more common among the well-to-do than among the poor, who have, through their association with filth, developed immunities which the others, in their protected lives, do not seem to possess.

The course of an acute puerperal infection varies with the pathogenicity of the bacteria and with immunologic reactions of the patient. Micro-organisms are always present in the vagina and lower cervical canal. Ordinarily, these are non-pathogenic. However, strains of low virulence may give rise to inflammatory processes of extraordinary extent, while, vice versa, organisms of high virulence may fail to cause serious trouble.

The chief invaders are the streptococci. Of these, the hemolytic streptococcus, the streptococcus viridans, and anaerobic hemolytic streptococcus are the most important. Hemolytic streptococci, both aerobic and anaerobic, are present in the vaginal discharge of a large percentage of those who have purulent leukorrhea.

Puerperal sepsis may be either extrinsic or intrinsic in origin; meaning by extrinsic, that derived from an outside source, and intrinsic, that derived from the patient's own body. During the past few years, the measures against sepsis of extrinsic origin have become more and more stringent. Steam sterilization of gowns and dressings and the use of rubber gloves have been introduced. In more recent years, obstetricians have seriously considered the problem of preventing sepsis of intrinsic origin, a far more difficult matter. The elimination of areas of focal infection is a step in that direction. Focal infection is a much more frequent source of puerperal infection than is generally recognized, for infection may develop as a complication of a laceration of the cervix in a patient who has not been subjected to digital examinations or instrumentation. The most important distant foci are the tonsils, teeth, sinuses, colon, appendix and gall bladder.

Notable post partum fever in the absence of other demonstrable infection is always suggestive of puerperal infection. The early differential diagnosis of this disease is really made through the elimination of other conditions which may give rise to fever during the puerperium. After an interval of two or three days, the development of an irregular fever of a septic type, ofter as high as 103 degrees F. or 104 degrees F., is almost diagnostic. Chills, more or less profuse and often fetid vaginal discharge, abdominal distention, pelvic distress, and progressive secondary anemia are essential features.

Prophylaxis plays the all important role in the treatment of this disease. Early in pregnancy, local pelvic diseases, such as vulvitis, intertrigo, vaginitis, bartholinitis, cervicitis, etc., should be cured as long as possible before labor supervenes. By means of proper diet, good hygiene, and the elimination of possible foci of infection, it should be our aim to bring each expectant mother to the onset of labor with maximum resistance to unavoidable infection. During labor, all organisms, which might be pathogenic, should be excluded. Hemolytic streptococcus carriers should be positively excluded from contact with women during labor. The general practitioner, who lanced abscesses, treated scarlet fever patients and, at the same time, attended confinement cases, inevitably introduced infection rather frequently at the time of making bare-handed vaginal examinations. Thus, anyone, who has an upper respiratory infection or who has recently attended a contagious case, especially one of scarlet fever, erysipelas, or puerperal sepsis, should not be permitted to come near an obstetric patient.

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The number of internal examinations should be limited to an irreducible minimum and these should be made as gently as possible. Essential examinations should be made with asepsis, with the vaginal orifice sponged with an antiseptic solution, preferably two per cent Cresol solution, and with complete separation of the labia. It is important to carry the examining finger no higher in the birth canal than is necessary. The labor should be conducted as far as possible by external and by rectal examination.

Every effort should be made to conserve both general and local powers of natural resistance against infection. This may be best attained by averting exhaustion during labor, by avoiding unnecessary trauma, and by preventing excessive loss of blood. Averting exhaustion includes consideration being given to diet, to rest, and sleep, and the prevention of unduly prolonged labor. The diet should be rich in carbohydrates, for they are most easily utilized. Rest and sleep are favored by the employment of proper obstetric analgesics. However, a long and deep anesthetic should not be employed, for it favors postpartum hemorrhage, and anemic patients are more liable to infection.

The bag of waters should not be ruptured until there is strict indication for its rupture. All measures to shorten labor, such as manual dilatation of the cervix and the perineum, should be avoided. Patience and gentleness will go far toward preventing lacerations and bruises, the smallest of which may allow entrance of pathogenic bacteria.

During labor, the patient should be encouraged to urinate at least every two hours, as a distended bladder predisposes to infection. If distention of the bladder makes its appearance suprapubically, aseptic catheterization is indicated. A distended bladder has often been the cause of uterine inertia, a prolonged labor, and subsequent infection.

While low forceps deliveries, expertly done, do not increase the incidence of infection, high forceps and mid forceps deliveries do. Hence, these procedures should not be done unless absolutely demanded, but, when indicated, they should not be postponed.

The third stage of labor should be conducted as physiologically as possible. Manual removal of the placenta should be attempted only if there is hemorrhage, or if the organ is adherent. The uterus should not be bruised by too early, too frequent or too strong attempts at Crede expression. Wounds of the perineum should be immediately and thoroughly repaired.

The treatment of puerperal sepsis is largely symptomatic. Rest should be general as well as local. The patient should be kept in Fowler's position to provide better drainage. Sleep may be induced by phenobarbital or bromides, reinforced by suitable analgesics if there is pain.

Internal vaginal examinations, uterine douches, and enemas are definitely contraindicated. Likewise, the uterus should not be roughly palpated from the abdomen. For abdominal distention, hot stupes over the abdomen are useful. A rectal tube may help in allowing gas to escape from a distended bowel.

Gastric lavage or the use of the Levine tube may be used to control vomiting. Blood transfusion is very valuable, not only if anemia is present but also as a stimulant to the production of immunity. Although much experimentation has been done with serums, vaccines, and immune bodies, no definite and satisfactory results have thus far been obtained.

In conclusion, I would suggest that if the number of sporadic cases of puerperal sepsis is to be substantially diminished, we must sterilize, as far as possible, the field of action, avoid unnecessary trauma and hemorrhage, and remove, beforehand, septic foci in other parts of the body. To these, it is to be hoped, the future will add reliable immunization before delivery.

PRENATAL CARE*

JOSEPH L. MOLONEY, M. D.

Covington.

In a paper as brief as this needs must be I do not intend to reiterate in detail all of the points universally described in texts on the subject and with which I am sure you are all familiar. This paper instead will be confined to remarks on a few of the more salient features of prenatal care and their application to modern medical practice.

"The service of the physician begins before birth and ends with the grave."

It is well to remember that prenatal care at its best can only make it possible for a greater number of pregnant women to reach full term in better condition for the ordeal of labor and delivery and with more robust infants. Prenatal care can also render a good service by directing women in making arrangements for a high quality of delivery service.

It is also true that no amount of prenatal care can compensate for poor care at the time of delivery, but good care at delivery can often compensate for lack of prenatal care and be the most potent single factor for good or bad obstetrics.

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Women should be taught what they have a right to expect when they go to their doctor for prenatal care. They should go as soon as they think they are pregnant. At this early visit a complete history general and obstetrical should be obtained. A physical examination should be made to detect any systemic disease. These, if found, are best treated in conjunction with a capable internist. Foci of infection should be sought out and if found eradicated. Allen and Bauer of Chicago have shown that such conditions untreated give an increase in later complications. Anemia, infected teeth and toxemias head their long list. Surgical complication, according to Priest and others should be treated with no more hesitation than in the non-pregnant state.

Pelvic examinations unless especially indicated, are best made at a future visit. This is the very thing a young expectant mother fears and seeks to avoid. The patient should be required to make routine visits at which time the *sine qua non* test should be made of weight, blood pressure and urine. She should also be prompted to make calls besides these routine ones whenever there is any desire for help or when those symptoms which might herald toxemia appear. The use of the Aschheim Zondek test in doubtful cases where early diagnosis is important is to be encouraged. The Adler-Kapplar test, while not as reliable as the Aschheim Zondek, has the advantage of economy and speed and can be done at the physician's office. In my own case it has been very helpful.

A normal balanced diet suitable to health in any adult is suitable to the pregnant woman unless some special condition prevails. The routine use of vitamine concentrates, while perhaps ideal, is not essential in every case and because of the cost their use may well be limited to those cases that exhibit clinical requirements. The routine use of iron to combat the hypochromic anemia almost universal in the last trimester of pregnancy is in the light of such recent work as that of Corrigan and Straus of Boston to be strongly recommended.

A weight increase of not more than twenty pounds above normal is a very good standard. We know these patients seldom develop complicating toxemias. Excessive gain in a short interval suggests edema or hydramnios. If gain is excessive throughout pregnancy faulty diet or possibly hypothyroidism is to be thought of as suggested by Wolf. The treatment in any case must be obviously dictated by the etiology present.

Pelvic measurements are most reliably done by X-ray in primipara and multipara who have a history of dystocia. Unfortunately this method is not readily available and adds an appreciable cost to prenatal care. Instrumental measurements while useful are unreliable.

Personally, an examination at the start of the ninth month to discover position, presentation and condition of fetus, beginning engagement of head is my preference. In short, an examination designed to discover the all important answer: Does this mother's baby fit this mother's pelvis?

The prevalence of abortion in this day of diminishing birth rates is a challenge to prenatal care. We should exert ourselves in every way to preserve the pregnancies we have instead of spending time in lamentation. Fortunately, therapeutic abortion amongst men who follow modern teaching is a thing of the past. Many an abortion can be prevented by taking the time to instruct our patients in the possible avoidable causes, reportable signs and symptoms. Habitual abortion would probably be greatly reduced by use of the Wassermann test, by intelligent administration of luteal extracts as advocated by Wolf, and last but not least by the careful conduct of each delivery preventing lacerations as much as possible and when present immediately repairing them thereby aiding in preservation of any future pregnancy.

Vomiting of pregnancy is best treated at its onset. The public and in many cases the profession pass these by with the admonition, "Everything will be all right." Treat them all for otherwise a certain group will develop a pernicious type.

Early vomiting occurs in about sixty per cent of cases. Approximately ninety per cent of these can be controlled by serene life, confident assurance, sedatives and dietary regime. The intractable ones should be hospitalized where adequate fluid and carbohydrate intake can be insured. Good results on the use of folliculin have been reported by Wolf and others. Eclamptogenic toxemia, Frederick H. Falls writing the Journal of Obstetrics and Gynecology after a critical analysis of five hundred cases gathered over a period of twelve years and given identical treatment states, "The mortality in a group of toxic women by careful handling can be brought down to the figure for pregnant women in general. There is no excuse for the development of serious eclamptogenic toxemia except the ignorance of slothfulness of the patient and physician in applying what is already known to the control of the disease."

METHOD

1. Hospitalization of all patients with a blood pressure of 140-90 or more.
2. Bed rest with milk diet and magnesium sulphate, to diminish protein split products in blood and increase elimination by bowel.
3. Empty uterus when symptoms do not yield to conservative treatment.
4. Patients first seen in labor deliver from below, Fulminating cases, those with contracted pelvis and elderly primipara by Caesarian section. All others by induction of labor and delivery from below.
5. Continue treatment post-partum to prevent post-partum eclampsia.
6. Sedatives, intravenous glucose and magnesium sulphate are rational but not always essential.
7. Special provision for infant because of toxicity and frequent prematurity.

Every woman at the start of the ninth month should be given very clear instruction as to what to do and what to avoid; this applies in particular to care of the genitals so that the occurrence of inter partum infection may be minimized.

The above gleanings furnish but an outline of a picture to some day be completed with such interesting touches as could be furnished by some gifted doctor able to paint in, let us say, a definite relationship between the endocrine glands and the vitamines, perhaps that, after all, vitamines are but something which are a raw product to be converted by these intriguing organs into their own elaborate all powerful products.

Or again may we not hope some day to find a relationship between the amino acid, histidine, that appears in the urine early in pregnancy and diminishes in amount later, and our great problem of toxemia which occurs in late pregnancy.

Who can be interested in any field and not delight in speculation?

Bone Marrow and Lymph Node Changes in Experimental Radium Poisoning.—Rosenthal and Grace reproduced in rabbits by the oral administration of radium sulfate the general features of radium poisoning as observed in human cases. Jaw necrosis, a characteristic of the early acute cases among radium dial painters, can be produced experimentally by radium alone without mesothorium. Striking changes are produced in the bone marrow, consisting of an early hyperplasia of the erythropoietic elements followed by a decreased maturation of the erythroblasts and the replacement of the these elements by myelocytes. Finally this hyperplastic marrow is replaced by fibrous tissue.

TOXEMIAS OF PREGNANCY*

LEON HIGDON, M. D.

Paducah.

The toxemias of pregnancy constitute one of the most important and interesting problems in the field of obstetrics, pathology, and internal medicine, important because they contribute so much directly and indirectly to fetal and maternal morbidity and mortality, and interesting because we know so little about them from an etiologic point of view. In this discussion we shall consider chiefly two conditions peculiar to the pregnant state: (1) Hyperemesis gravidarium: (2) Pre-eclamptic toxemia of the later months and its severe form, eclampsia. Chronic nephritis, though not a true toxemia of pregnancy shall be briefly mentioned as it is so frequently seen and because of the similarity of symptoms.

Toxemia of the early months. Pernicious vomiting. What is the etiology of hyperemesis? There must be some factor to produce a condition that develops in 50 per cent of all pregnancies, to a greater or less degree. The generally accepted classification has been almost purely clinical, and has consisted in dividing the patients into groups based on the conception that the disease was due to a neurosis, to some reflex stimulation, or to an essential toxemia incident to pregnancy. The idea of reflex causation is being abandoned. Endocrine therapy is sponsored by Frankel. Hirst has advocated the use of corpus luteum extract. Titus and his co-workers stress a deficiency of carbohydrate and employ it as a therapeutic measure. Stander thinks it a metabolic disturbance and in particular perhaps an upset in carbohydrate metabolism, which in time leads to incomplete oxidation of fatty acids.

It would seem safer to consider that all emesis and hyperemesis have a common cause, and that no satisfactory distinction can be made between neurotic and toxic vomiting. The familiar first stage needs no description. In the advanced stage the picture varies considerably. We see dry inelastic skin, sunken eyes, dry mouth, tachycardia, low blood pressure, a breath with acetone-like odor, occasionally a slight icteric tint, this later may clear up under intensive treatment. In the terminal stage we see a marked loss of weight, very dry skin and mucous membranes, jaundice, semicoma, constant attempt to empty the stomach. Toxic retinitis may appear, causing impairment of vision. When this stage is reached, the time even for interruption of pregnancy is past. Unalterable changes in the tissues have occurred and recovery is usually impossible. The diagnosis of pregnancy is made from the history, vomiting, amenorrhea, breast changes and positive pregnancy test.

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Care of the early ambulatory case should include such measures as freedom from nervous and physical stress, high caloric diet by frequent small feedings, between feeding sufficient fluids to meet actual requirements, sedation, dilute hydrochloric acid, if well taken, and correction of associated disturbances or lesions.

The moderately severe case should have the above mentioned care, and rest in bed, isolation, increased sedation and proctoclysis.

The severe advanced case where starvation and dehydration are present should have complete rest in bed, hospital isolation, sedatives, duodenal or gastric feeding, and either by intravenous or hypodermoclysis, fluids and dextrose.

Chronic nephritis although a relatively frequent complication of pregnancy, cannot be called truly a toxemia of pregnancy. Patients with chronic nephritis show a marked tendency to aggravation during pregnancy, and successive pregnancies may develop a poorer prognosis. The complication is more serious for the fetus than for the mother. Litzenberg has emphasized the point that next to syphilis, nephritis is the commonest cause of repeated premature labor or stillbirth.

Treatment: A certain diagnosis of chronic nephritis in the course of pregnancy places on the medical attendant the responsibility of informing the patient of the condition and its risks. In a mild grade of nephritis, or when there is some doubt of diagnosis, sometimes the patient may be carried along under careful observation and medical measures. An important feature of the treatment is a trial period of rest in bed for ten to fourteen days. A salt free diet of 1500 calories containing 50 milligrams of protein daily should be used. Occasionally this will be followed by a fall in blood pressure and lessening of albuminuria. In such cases, under a careful routine of diet and rest, pregnancy may be carried to successful completion without increase of nephritic symptoms. When the disease is of severe grade, or when there is a history of a definite exacerbation in the course of a preceding pregnancy, and where there is a viable fetus, termination of pregnancy should be advised.

Preeclampsia Toxemia: Commonly included under this term, are mild preeclamptic toxemia, severe preeclampsia, and eclampsia with convulsions. Such terms as low reserve kidney, recurring toxemia and acute nephrosis, are more or less equivalent. Evidence indicates that these forms of toxemia are caused by a common agent which affects tissues throughout the body, and that the resultant symptoms usually pass through various stages. Emphasis should be placed on the part of general vascular disease in late toxemia of pregnancy. Some of the hypotheses are listed under the heading of:

(a) Maternal causes which include dietary, mammary, endocrine, intestinal and metabolic changes.

(b) Such fetal causes brought about by biologic reactions, or entrance of fetal elements or fetal metabolic products into maternal circulation.

(c) Placental causes.

(d) Bacterial causes.

(e) Physiologic, chemical causes.

Lever in 1843 thought eclampsia due to uremia. This idea was generally accepted for many years but now has few advocates. Stander summarized the opinions of Volhard, Paramore, and others as a form of acute uremia. Fitz Gibbon expressed the belief that the cause of preeclamptic toxemia is failure of the organs of elimination to take care of the extra demands incident to pregnancy. Talbot believed the toxemia due to infectious origin. The hypotheses that placental infarcts produced the toxemia received the support of Browne. Young in his classic of 1914 stimulated a renewed interest in the relation of placental infarcts to toxemia. The discussion by R. R. Bartholomew and R. R. Krache regarding the probable role of the hypercholesteremia of pregnancy in producing vascular changes in the placenta predisposing to placental infarction and eclampsia is a very interesting one. The theory that dietary disturbances play a large part in the production of preeclamptic toxemia received added support with the reduction of the incidence of toxemia in Germany during the food blockade of the World War. This fall was from 14 in 1000 to 9 in 1000. The majority of the German and Austrian observers attribute it to the lessened intake of protein and fat. Titus and his co-workers suggest that hypoglycemia is an important factor. The hypophyseal theory supported by Cushing and Anselmino and Hoffman states there are definite histologic changes in the posterior lobe of the hypophysis productive of hormones with vasopressor and antidiuretic substances in the blood and urine.

There is no physician but what has great concern for his patient presenting prodromal symptoms of the toxemic state. The eclamptic convulsion imprints an indelible mental picture. Edema, excess weight gain, scotomata, epigastric pain, nervous irritability, insomnia all point to danger. The actual convulsion presents typical features resembling most nearly an epileptic attack.

Prognosis: Maternal mortality varies depending on the geographic locality and the type of care. Remberger and Schreier reported 42.4 per cent mortality following Cesarean section for eclampsia between the years 1916-1929, and Stroganoff reported 2.6 per cent in the conservative treatment. The report of the American committee on maternal welfare states that annually 30 per cent of the approximately 15,000 maternal deaths in this country are due to toxemia of pregnancy.

Briefly, the pathologic lesions are chiefly those of the liver, kidneys, brain, lungs, and heart. It may be assumed that in both the non-convulsive and convulsive forms of the acute toxic hypertensive syndrome, there is a general systemic vascular change as revealed by study of the precapillary vessels of the nail fold, the renal glomerular tufts, and the retina arterioles.

General Consideration of Treatment

The treatment of toxemias of the later months of pregnancy are divided into prophylactic or prenatal, and general, special and surgical measures. Results of prenatal work have amply demonstrated its value in reducing maternal morbidity and mortality due to the toxemia. When signs of incipient preeclamptic toxemia develop, such as rising of blood pressure, undue weight gain, edema, or albuminuria graded 2, certain definite instructions should be given aimed at limitation of physical activity, avoidance of chilling, reduction of diet and promotion of elimination. Eclamptic convulsions present an emergency requiring immediate treatment. It is obviously necessary to control convulsions, whether they occur before, in the course of, or after the birth of the child. A majority of the convulsions occurring before labor or in labor cease when the uterus is emptied, and this has led to the employment of so-called radical methods for the immediate termination of pregnancy, rather than conservative measures. Conservative treatment in its strictest sense deals with measures for control of convulsions; delivery of the patient is not forced, although measures may be used to shorten the second stage of labor. Modified conservative treatment employs measures to control convulsions or to prevent impending convulsions. They are induction of labor in some instances following control of convulsions; employment of measures to shorten the second stage of labor; delivery by Cesarean section in certain cases when convulsions have been controlled, or when attempts to control convulsions have failed, or in some cases of impending eclampsia. Radical treatment consists in immediate interruption of pregnancy by abdominal Cesarean section in each case in which convulsions appear if the patient is not in labor, and in some instances during the first stage of labor by forcible dilitation of the cervix and delivery by version or forceps extraction.

Plass published in 1931, after extensive inquiry in this country and abroad, information concerning the relation of forceps and Cesarean section to maternal and infant morbidity and mortality. He showed that general statistics revealed a maternal mortality of between 5 and 10 per cent following section. Plass stated: "It should moreover be stressed that abdominal delivery has little place in the treatment of eclampsia and that conservative medical care has actually established itself as a treatment of choice." One may be caught between the two horns of a dilemma for temporizing in the hope of obtaining a living fetus may result in intrauterine fetal death from toxemia in addition to increasing the maternal risk. It is of value in the treatment of eclamptic convulsions to have a routine of sufficient elasticity to meet such indications as may arise in the individual case.

But there is much study to be done and no branch of obstetrics requires greater thought and attention on the part of those seriously minded to further improve the situation.

Primary Aplastic Anemia—Recovery.—Astwood's case with complete recovery presented the characteristics of primary aplastic anemia. Whether or not this recovery will be permanent, only time can tell. To what extent the different remedies used (citrated blood, liver extract, ferric ammonium citrate, brewers' yeast, raw bone marrow, ephinephrine, ephedrine) influenced the outcome it is difficult to say, but the author is certain that the patient would have died promptly but for the transfusions, of which there were eight, of about 400 cc. average, given at weekly intervals. The rise in reticulocytes and the gradual improvement which followed the use of ephedrine suggest that it may have exerted some beneficial action on blood regeneration. It is probable, however, that the recovery was spontaneous and that the absence of any heroic measures, the supportive effect of the transfusions and the prevention of infection by good nursing allowed recovery to take place.

CARE OF THE NEWBORN IN THE FIRST WEEKS OF LIFE*

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In this paper I shall review some of the measures necessary for the proper care of the newborn infant immediately following birth and during the early weeks of life. These are easily carried out but unless the parents are specifically instructed in their application by the physician are often omitted or done incorrectly.

Immediately after the respirations have been established and the cord has been tied the child should be put in a warm blanket in a quiet place. The baby has come into a cold and hostile environment and its temperature regulating mechanism functions very poorly. Any chilling at this time may cause an actual drop in body temperature with danger to life. If there is any evidence of cyanosis or cold extremities hot water bottles should be put in the crib until the circulation has become normal.

It seems hardly necessary today to mention the method of Crede, the instillation into the eyes of the newborn of a 1 per cent solution of silver nitrate, for the prevention of ophthalmia neonatorum of gonococcal origin, and yet, last year there were admitted into the Lexington hospitals a rather large number of these cases. Where this procedure is routinety carried out the infection is a rarity. This instillation may be made immediately after delivery or during the first toilet, following the irrigation of the eyes with saturated boric acid solution.

When good circulation has been established the vernix caseosa is removed. This is best done with oil, in a warm room or in front of an open fire paying particular attention to the folds of the skin. When the child is thoroughly clean and the excess oil has been removed a general rub with 3 per cent ammoniated mercury ointment is given to minimize any chance of pyogenic skin infection. The nose is gently cleaned with absorbant cotton and the external portion of the ears are cleaned, no effort being made to clean the canal. The mouth is not touched. This is a self cleaning cavity and any break in the mucous membrane through trauma may give entry to infection with a resulting stomatitis.

For the first week a daily oil rub should be sufficient to keep the child clean using liquid petrolatum, olive oil, or one of the scented baby oils. After the cord has separated a daily sponge bath should be given, using water at a temperature of 100 degrees Fahrenheit. The face should be washed with a rag and clear water and the head and body soaped with a superfatted or castile soap and rinsed by means of a sponge. After the naval has completely healed the child may be bathed in the tub, the duration of the immersion being two to five minutes. After any type of bath the child should be patted dry with soft toweling paying particular attention to the creases and folds. These are lightly oiled or dusted with unscented talcum powder to prevent chafing. Care must be taken that powder does not cake in the creases. It is better that thorough drying alone be practiced than that this should happen.

The eyes are bathed daily with saturated boric acid solution, the lids being held open and the warm solution being dropped into the eye from a piece of absorbent cotton. The mouth should not be touched. A drink of water following the nursing is all that is necessary for oral hygiene. The mother's desire to dig for "wax" in the ears with a hairpin cannot be too strongly condemned and no manipulations should be done within the external auditory meatus except by the physician. The finger and toe nails should be cleaned daily and should be trimmed short to prevent the child from scratching itself. These should be cut straight across and not rounded. If this is done there is no danger of an ingrowing nail. Special care must be given the genitalia. In boys the foreskin should be retracted daily and the glans cleaned, and in girls the labia and vulva opened and cleaned. In addition to the daily bath the anal region should be washed, following every stool, with clear water. In girls it is important that this should be done toward the anus to avoid contamination of vagina with resulting infection.

When the cord has been tied it may be dressed only with sterile gauze or may be dusted with bismuth, boric acid, or a mixture of salicylic acid and starch. This dressing should not be changed until separation has taken place. It may be found that there is oozing of clear or slightly cloudy mucoid material from a granulating area on the stump. If this is touched with a silver nitrate stick and the area powdered daily with a mixture of salicylic acid and starch 1:10 healing is usually rapid. It cannot be stressed too strongly that the dressing of the cord should be sterile when applied and should not be removed until the cord has separated. If this is done and the child is oiled and not bathed there is very slight danger of any umbilical infection.

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Whenever possible the baby should have a room to itself since it is almost impossible to keep the child quiet if members of the family are constantly in the room. The room should be well lighted and ventilated. The temperature during the first weeks of life should be between 65 and 70 degrees Fahrenheit during the day and between 50 and 60 degrees at night. To keep the temperature at these levels it is necessary that a thermometer be kept in the room. For ventilation the window may be lowered from the top or if raised from the bottom a window board should be used. The humidity may be increased from the evaporation of a pan of water on the stove or radiator. In case of draughts a screen between the window and crib may be used with advantage. The furniture in the room should consist only of those things essential to the baby. They should be easily washable and any thing which tends to collect dust should be eliminated.

The child should have its own bassinet or crib and should under no condition be allowed to sleep with the mother. This not only prevents any danger from overlying but removes the temptation to nurse the baby intermittently during the night. Whether the article used for the child is an old basket or an elaborate bassinet is unimportant so long as it is large enough to allow free movement and the mattress is of hair or some other unyielding material. Many children have received permanent deformities from sleeping on feather or other types of mattresses which did not give proper support. The mattress should be covered with a rubber sheet and a quilted bed cover. Sheets, cotton blankets and a light spread are the covers necessary for the child.

Clothing the baby is a problem in which the parents often exhibit a great lack of judgment. In their effort to protect the child against the weather they are more prone to overdress than to underdress. It is not at all uncommon to see an infant dressed as though for an arctic exploration lying under three wool blankets in a room with the temperature over 100 degrees. Usually the mother cannot understand why the child is covered with a heat rash since the outside weather is cool. All of the clothes that are necessary for the infant at this period are socks, a diaper, and a loose shirt, all of which should be of cotton as many babies are sensitive to wool. There may be added to this an abdominal band for the period during which there is a dressing over the cord. This can be left off as soon as the cord has healed since the abdominal support is negligible. A light dress may be included for those times when the baby is on display. For night wear a long nightgown of flannel or stockinet should be used over the shirt and diaper.

One fact which is often forgotten or at least is not stressed to the parent is that from the moment of birth the infant begins to learn. This being true it is necessary that the child's training begin at the same time. This is done during the newborn period by the regulation of the eating and sleeping habits. Regularity of feeding is the more important. Not only is this true from a physiological standpoint but a child who discovers early that it will be fed only at the appointed time is a much happier and more contented baby. I do not advocate letting the child absolutely alone when he cries for there may be a definite cause for the complaining, but after the mother has assured herself that there is nothing causing acute discomfort then the baby should be left alone to discover that crying is not an effective way of getting its wants satisfied. If when the parents want to pick the child up they choose a time when he is quiet another victory is gained. The same general method applies to the sleeping habits. During this period when not eating the child spends most of its time in sleep. If from the beginning the baby is put in the crib and left to go to sleep without any rocking, shaking the bed, or singing there will be a great deal less trouble at bedtime in later childhood. Let me emphasize that in this as in all habit training consistency is essential. The same thing must be done repeatedly in the same way or failure will result.

In closing I should like to mention a menace which is present throughout childhood and particularly during the newborn period. I refer to interested friends and relatives. It is an undeniable fact that respiratory infections are one of the chief causes of morbidity and mortality during this time and there is no surer way of inoculating the baby than to allow it to be handled and fondled by a large number of adults. If the child, however, is treated as a rather rare museum piece and is allowed to be admired only when in his proper setting, the crib, and at a respectful distance this danger can at least be minimized.

All of the measures which I have cited have been successfully used and combined with adequate feeding should assure a happier and healthier newborn period.

BIRTH INJURIES*

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By birth injuries we mean damage to infants from action of all or any mechanical factors during the process of labor. Any organ of the body may be, and has been, injured. Birth injuries which may cause death within the first month of life, or later play an important role in the physical and mental handicap of the child are more common than is generally believed to be true.

Infant mortality has been greatly reduced within the last ten years, but practically no reduction has taken place in the mortality of the infant during the first month of its life. Injuries resulting from birth or asphyxiation during or immediately following delivery play a very important role in this period of life.

Because this paper is limited in its time I will discuss only the most common injuries and take the liberty of discussing this most important subject of asphyxiation of the newborn. (1) The injuries to the contents of the cranium; (2) spinal injury; (3) intra-abdominal injury; and (4) asphyxiation.

CRANIAL INJURIES: Moulding of the fetal head during labor produces over-riding of the bony fragments. There is displacement of the intracranial contents, and in some cases tearing of the veins and sinuses. In extreme cases arteries may be injured. Injury of the brain substance will obviously be present following these injuries. There may be present an interference with the circulation of blood and damage to the cells of the brain as a result of this disturbance. Prematurity predisposes to a tendency to bleed and produce more easily the conditions described above since the vessels of the brain are more fragile than those of a term infant. The most common type of intracranial injuries are the tentorial tears at the region of the base of the brain or petrosal bone. The extravasation may be either above the tentorium along the temporal or occipital lobes or below the tentorium around the cerebellum and medulla.

More important still is the damage to the brain substance with edema of the tissues in that area. With the obstruction of the venous return and of the lymphatics this engorgement and edema may become most marked and prove more rapidly fatal than the hemorrhage itself. This type of intracranial injury may be entirely different from intracranial hemorrhage and the two terms should not be used synonomously as is often the case.

CLINICAL SYMPTOMS: Infants who sustain intracranial injuries and survive delivery present the same clinical picture that any other patient would who has sustained an intracranial injury and the treatment should be along the same fundamental lines as that for such injuries in an adult. The patient is usually pale and has a weak heart beat. Respiration may be shallow and irregular, (fast, slow or shallow) or may even be absent. There may be the typical expiratory whining cry. They may be cyanotic or acyanotic. The muscular tone is poor. In the early period the child may be irritable then pass into a period of shock. The patient usually refuses to nurse. Localized or generalized twitching may be present. Reflexes are usually increased. Ptosis, strabismus and nystagmus may be present. Where damage to the cerebrum is marked, yawning may be noted. From this stage the patient may pass into a period of somnolence, paralysis and death. If the outcome is not fatal, a gradual reaction to external stimuli takes place and improvement is noted from the third to fifth day. If the symptoms last beyond that period there is a fatal termination. Infratentorial hemorrhage usually is fatal with asphyxiation symptoms shortly after birth, certainly within forty-eight hours.

TREATMENT: It is most essential to avoid external stimulation. The infant should be warmed immediately, including the head, and should be kept warm. Sedation should be used to prevent motor excitability from outside stimuli. The best drugs are sodium luminal given intramuscularly, chloral hydrate given by lavage or by rectum and bromides fed in a similar manner. The infant should be kept sedated until the irritation is lessened to the point that stimuli will not produce fatal convulsions.

Blood may be used to help control hemorrhage. Intramuscular blood may be used immediately without typing and intraperitoneal or intravenous blood may be used as soon as patient is typed. Neither intraperitoneal or intravenous blood should be used except when typed unless in case of dire emergency, and then the parents should be told of the elements of risk in giving untyped blood.

Lumbar punctures are not resorted to as was formerly done, due to the fact that drainage of spinal fluid may only cause more bleeding or be replaced by edema. If the fontanelle is very tight, diagnostic spinal puncture may be made, and if blood is present, repeated small taps may be of benefit.

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If no blood is found, taps for therapeutic purposes should be resorted to only rarely.

If subdura hemorrhage is diagnosed, operative procedure should be resorted to. Moncrieff advocates hypertonic saline by the rectum to relieve the edema. I have not had any experience with this treatment.

Nourishment of the infant should not be overlooked. Breast milk or easily digested foods should be fed by tube if the baby does not nurse.

Spinal Injuries: Fortunately spinal injuries are not so common. They are associated most commonly with breech labors and with manipulation necessitated by dystocia. The cervical portion of the spine is the most common site of injury and is a separation of the structures supplying the body from the cord. Complete severence of the cervical cord may take place.

Lesions of the cervical plexus may be considered in this group of injuries and is known as Erbs paralysis. Paralysis of the upper part of the plexus represents a typical form of birth paralysis. Here the fifth or sixth cervical roots or the trunk, formed by their union are affected. The muscles affected are the deltoid, supernatal longus and brevis. This will show the shoulder depressed in a forward and downward direction, with the arm lying limp against the trunk, inwardly rotated and adducted. Fingers are flexed with the thumb pressed inward.

Injury to the plexus affect the right cervical and the first thoracic. The muscles affected in this type are the small muscles of the hand and the forearm, and the long flexers of the hand and fingers. Also accompanying this injury are the sympathetic fibers supplying the eye.

There may be present also a complete paralysis of the plexus in which all muscles of the forearm and arm are paralyzed.

Clinical Symptoms: Patients who receive marked injury to the cervical cord never survive. Severe injury below this region gives symptoms of transverse myelitis. The brachial palsies referred to above produce paralysis of the sets of muscles supplied by the nerves injured.

Treatment: In favorable cases the muscles begin to function after a few weeks. The arms should be put in a position for physiological rest. A splint is applied in which the arm is put in abduction, elevated and outwardly rotated. The splint should be taken off once or twice each day for massage and gentle manipulation of the arm. Electrical stimulation, after the fourth or fifth week, may be used from three to ten minutes (faradic stimulation). If the arm does not recover under this treatment surgical repair of the nerves should be attempted after the fourth month. Do not expect recovery of the injured part immediately after operation as the time varies from two to eight months before improvement takes place.

Intra Abdominal Injury: Usually the delivery of the trunk is not difficult and as a result injuries to the organs of the abdomen are rare. The organs which are involved most commonly are liver and adrenal. The injuries to these organs are hemorrhages. Hemorrhages may rarely occur in these organs without very much trauma. A hematoma increases largely after thirty-six to forty-eight hours.

Clinical Symptoms: The symptoms of liver and adrenal injuries are usually very similar, if not complicated with other injuries. A child will refuse to nurse, become apathetic and die within twenty-four to forty-eight hours.

Treatment: The treatment of this condition is that of any ruptured viscus in an adult, provided diagnosis can be made. Correct diagnosis is extremely rare, most cases of this injury being diagnosed at autopsy.

Asphyxiation: Asphyxia literally translated means absence of pulse, but in common parlance means an insufficiency of oxygen supply to the body. This condition accounts for more neonatal deaths than any other one condition. The causes for asphyxia or respiratory failure in the newborn are listed by Alan Moncrieff in his Golstonian lectures before the Royal Academy of Physicians in 1935 as:

CENTRAL

1. Immaturity of centre.
2. Damage to centre, increased intracranial pressure, edema, hemorrhage.
3. Narcotics.
4. Chemical factors, oxygen-lack, carbon dioxide excess, etc.
5. Circulatory disturbances, affecting centre in uteros, pressure on cord, etc.

PERIPHERAL

1. Obstruction, premature inspiration.
2. Delayed expansion.
3. Muscular feebleness.
4. Circulatory failure.

Clinical Symptoms: Asphyxiation may take place even before the uterus is emptied. The condition may be detected by the obstetrician from the slow heart beat during the pauses of labor. Meconium may be observed in the escaping liquor amnii and is a very important sign of fetal distress. A loud umbilical souffle, or excessive fetal movements all point to grave danger to the infant.

If the infant is born asphyxiated from the point of view of prognosis we may consider two types of asphyxia—first degree or blue asphyxia (asphyxia lavida) and second degree or pale asphyxia (asphyxia pallida). However, pathologically this differentiation is not justified.

With blue asphyxia the skin is cyanotic, the conjunctiva are injected, the eyeballs may be prominent and the skin sensitivity is maintained. Muscle tone is present, the heartbeat is strong. Breathing may be absent or gasping but the child generally starts respiration fairly soon and the prognosis is more favorable.

The second degree or pale asphyxia is the shocked type of asphyxia with peripheral circulation gone. The skin is pale, mucous membrane livid, response to stimuli absent, the heart action is slow, and may be irregular and soft. This type of asphyxia offers a very poor prognosis. However, with adequate treatment recovery may take place from the white asphyxia.

Treatment: The most important thing in the treatment of asphyxia is to find the cause of the asphyxia. In a great number of cases asphyxia may be due to obstruction of the respiratory passages and it is best for all physicians who deliver babies to see that the respiratory passages are clear before any other measures are taken to resuscitate the infant. If the respiratory centre is responsive to stimulation the infant may be kept warm and respiration will be started. The respiratory passages may be cleared by general aspiration with a soft rubber ear bulb or a tracheal catheter inserted in the nasopharynx and gentle suction applied while the child is held up by its heels. After these passages have been cleared the patient should be put in a warm box prepared for delivery, or a bowl of warm water and allowed to remain until respiration begins. The head should be immersed and kept warm. It is very essential that the trachea be kept straight and the tongue forward so that respiration may not be hindered.

I do not feel that artificial respiration as it has been carried out will cause any infant to breathe. Fatal damage may be done by such manipulation, such as crushing a lung, fracturing ribs, rupturing intra-abdominal viscera. Even bones of the upper extremities have been broken by such methods. A policy of "leaving the child alone" should be adopted and fear of failure to breathe should be overlooked. If the infant has not received a fatal injury or asphyxia, it will breathe without manual artificial respiration.

Few drugs should be used in an attempt to stimulate respiration. Carbon dioxide and oxygen may be used in cases where the respiratory centre is sluggish in its responses. It is best not to use over five per cent carbon dioxide with ninety-five per cent oxygen. This is best administered by a small mask or an oxygen box.

Lobeline has been used extensively in this country with some good results, but may produce repressant effects upon other systems, particularly the heart. Coramine is a better drug and does not have the untoward effects found with Lobeline. This drug still is not an ideal respiratory stimulant but is probably the best drug at our disposal. It may be used either intramuscularly or intravenously and has a wide physiological range.

In closing I would like to stress the importance of first determining the cause of asphyxia; then cleaning the air passages of obstruction; keeping the baby warm, and finally having the intestinal fortitude not to interfere with nature in its attempt to start the baby to breathe.

CONSIDERATION OF FRACTURES OF THE SHAFT OF THE FEMUR*

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In this consideration, I will discuss only fractures involving the lower, middle and upper third of the shaft, exclusive of intertrochanteric and intracapsular fractures of the hip.

Fractures of the shaft of the femur are more serious than fractures of the shaft of any other long bone because the failure of union, attainment of proper length and general alignment are more disabling to the patient. The fundamental principles of the treatment of fractures have not deviated but the methods employed have varied widely. Reduction and maintenance of reduction until union has taken place, restoration of normal function in the shortest time with the least dangers to the patient should ever be borne in mind. This is no new idea.

Careful and complete examination of the patient, as a whole, the clinical examination of the injured parts and thorough X-ray study from proper angles and comparison with the other limb are the first steps in the beginning of our responsibility. The next in order is the selection of the most favorable method with which the surgeon is familiar and in his hands is productive of the best results in this particular fracture. Since the standardization of the treatment of fractures has not and probably never will be accomplished, it is necessary for the surgeon to use his own judgment and employ the methods that are most efficient and safest in the production of anatomical reposition and maintenance of the fracture.

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The age of the patient is quite an important factor. Fractures of the shaft of the femur in young children usually occur in the middle third of the shaft. The reconstructive powers in children are much more favorable than in adults. The accomplishment of union will be attained in a much shorter time with less likelihood of complications arising. The most frequent methods of treatment employed at the present time are: First, reduction by manual manipulation followed by external fixation. Second, external traction and position. Third, skeletal traction and external fixation with a non-padded cast. Fourth, open operation and internal fixation. Our methods of treatment are considered in the order above mentioned.

There are many cases of transverse fracture of the shaft of the femur in young children that can be successfully treated by manual manipulation and external fixation. Frequent X-ray check-up is necessary to determine whether or not the fragments which have been locked by external manipulation stay put, as there are many instances in which the fragments, appearing to be in good position primarily, have slipped within a few days or a week.

There is always great difficulty in accomplishing reduction in the shaft of a long bone which is deeply imbedded in muscle. Fractures of superficial bones are much more favorably managed in this way. The thigh muscles have a longitudinal pull, the upper fragment is abducted and rotated outward. The lower fragment is displaced posteriorly, in most instances. One has much more positive control of the lower fragment than you have of the upper fragment. Flexion of the hip and of the knee must be employed along with strong traction. External traction, which is usually accomplished by the application of adhesive plaster and Buck's extension, along with flexion of the knee and hip, can be successfully employed in most instances, particularly in children.

The vertical suspension method in young children is very satisfactory in selected cases. Extensively comminuted and compound fractures of the shaft of the femur can be successfully treated in our hands by the employment of skeletal traction, which is accomplished by placing the patient on a fracture table, under a complete relaxing anesthesia with either spinal or general anesthetic, employing sufficient traction to both legs in the position of abduction and complete extension to accomplish the proper leg length. Fluoroscopic examination and films in the anterior, posterior and lateral views should be made, preferably with a shock proof X-ray machine. When the best possible position has been attained, the insertion of Kirschner wires or Steinmann pins should be done, selecting the proper anatomical location for each insertion above and below the line of fracture. While the patient is still held in this position, a non-padded plaster cast should be very carefully applied between the pins and in some instances, including the pelvis and lower leg, a complete long Plaster of Paris Spica. In some cases of fracture in the lower third of the femur a spica is not necessary. The cast can be carried well up to the tuberosity of the ischium, leaving the body free. Some of the slides to be shown will reveal cases in which this method has been employed with the final outcome of the patient. Our experience has shown that in selected cases, anatomical reposition and maintenance has been more thoroughly accomplished by using skeletal traction and a non-padded cast. Not only does this method. in selected cases, maintain rigid reduction but it permits of more general freedom of the patient, which allows him, in certain cases, to get out of bed, use crutches and a walking iron, and in about ten days to two weeks leave the hospital. This is a tremendous economic saving to the patient and to the institution.

Also, there is very much less atrophy of bone, muscle, ligaments and joints. In these cases, the period of after-treatment, which consists of physiotherapy, heat and massage, passive and active motion, is greatly lessened. Therefore, the individual can resume his occupation in the shortest space of time. We find that we are employing this method, in a larger percentage of cases than we formerly did. The reasons, of course, are as above outlined. The reaching of the desired goal, which is restoration of function in the shortest space of time, with the least amount of inconvenience and the greatest economic saving.

The fourth method employed is that of open operation, which I have placed last, on purpose, because we desire to avoid further complicating a serious injury. We have all seen cases in which open operation has been performed, different methods being employed, in which there has been infection, osteomyelitis, non-union, entire loss of function and in some instances loss of the limb by amputation either lower down or at the hip joint. We have made all of these observations in our practice. However, there are instances in which open operation is imperative, the principal reason of which, is interposition of muscle tissue. It is absolutely essential to have bone contact to hope to have union ensue. When open operation is performed, the strictest asepsis should be employed. If the fragments can be locked together without the employment of any non-absorbable material, this should be done. I would much prefer to accept one inch shortening in the leg than to do an open operation for reduction, and run the risk and accept the dangers we all realize are present.

DISCUSSION

E. W. Jackson, Paducah: Dr. Owen has given us a paper which is a little different from the general run of those which have appeared upon the subject of fractures during recent years. Skeletal traction and various mechanical devices designed to aid in the execution of this form of traction have held the stage for some time. They have made the subject of fractures more attractive, and the majority of men have concerned themselves principally with those procedures. As a result of this renewed interest and enthusiasm over the newer methods, we have possibly become a little inclined to think of fractures in terms of Steinman pins and Kirschner wires.

Dr. Owen accepts this modern advance, but at the same time he very carefully reminds us that the majority of cases can be treated by more simple measures, and emphasizes their importance. The principle of using the simplest, the easiest and safest procedure which will give us a good limb in a reasonable length of time should be our guide. Reduction by manipulation and traction and external fixation will be sufficient in a great many of the cases. Others will require position and continuous traction, and in this type of case the old Buck's extension is as good today as it was during the period of enthusiasm that followed its introduction, and it will still work wonders. For the more troublesome cases the Russell traction, which is a sort of improved Buck, offers an excellent means of securing traction. It is a method which greatly increases the pull and at the same time maintains the proper position of the limb.

The use of skeletal traction obtained by passing wires or pins through the bone and applying the extension directly to the bone is becoming increasingly popular and in certain cases occupies a position of usefulness not obtained by any other method. They can usually be inserted under local anesthesia, the wound of the soft tissues is no larger than the pin or wire in use, and infection or other disturbance resulting from their use very rarely occurs. They are inserted at points away from the injury and do not produce an open wound at the site of the fracture, as do bone plates and similar appliances. They should never be made to take the rightful place of external traction, but their intelligent use will remove the necessity for open operation in the majority of cases where plates have formerly been used. Open operation for the purpose of securing reduction of the fracture and maintaining it by the application of such appliances as plates, bands and grafts, is a major procedure which carries considerable risk and should not be used except for very definite and positive indications which cannot be met by more simple procedures.

Various factors, such as age, the economic status of the patient, and the experience of the surgeon, may in some cases influence us in the selection of the proper procedure for a given case, but taking the cases by and large, the interest of the patient will be best served by adopting the simplest procedure which can reasonably be expected to effect and maintain satisfactory reduction.

I should like to say a word in connection with the management of the soft parts in compound fractures. For many years we have been depending almost entirely upon the use of various antiseptics for the purpose of preventing infection in these wounds, but they all too frequently fail to serve their purpose. Now we are virtually back to soap and water and the wash rag. It is impossible to sterilize tissues which have had bacteria ground into them and which are not entirely accessible, by the simple application of an antiseptic, but by using abundant quantities of soap and water and gauze, we are able to clean the majority of these fractures to the extent that infection will not take place. If necessary, the skin and fascia can be incised to obtain better exposure of the soft tissue, in order that they may be visualized. We may then persist in our efforts until we are satisfied that the wounds are clean. At the same time, the severely traumatized tissues should be excised and removed. In this manner we will very greatly reduce the chances of infection. In the majority of cases the wound can be closed and the fracture made to behave as a simple fracture.

I. A. Arnold, Louisville: Mr. Chairman and Gentlemen: Dr. Owen's paper gives us a very practical description of the treatment of fractures of the shaft of the femur. I agree with him with but very few exceptions which I will mention in my discussion.

The first step in the treatment of a fracture of the femur, as Dr. Owen has stated, is to do as little manipulation as possible until an accurate condition of the fracture has been ascertained or revealed by the x-ray. By this accurate impression of the fracture reduction and fixation can be accomplished with the least amount of trauma. This point is not considered as a whole as much as it should be. You must remember that you are dealing with a viable tissue which is very sensitive to trauma, the same as any other tissue of the body.

The sequence which he follows in the method of treatment and fixation I think is correct, except I would put the open operation third and the non-padded cast fourth. There is one point in the treatment of fracture in any method you may use that must be considered which is invariably violated. In the treatment of fracture of the femur, especially near the proximal end of the shaft, there is always flexion of the proximal fragment. This fragment being short and deeply seated in the musculature cannot be controlled by any external fixation. The distal fragment, which is mobile, can be controlled and must be brought in a line with the axis of the proximal fragment, that is considerable flexion of the distal fragment to bring it in line with the proximal fragment. Otherwise, with any external fixation you will have anterior bowing at the site of fracture.

The plaster of Paris cast without traction will not hold a fracture of the femur in position except in the transverse or stellate fracture. If this fracture is properly reduced, the fragments interlocking, the plaster of Paris cast works admirably, provided the distal fragment is placed in alignment with the axis of the proximal fragment. If this is not done you will have anterior bowing at the site of the fracture.

Traction alone without cast works fairly well, but the combination of traction with cast is by far the best treatment in the fracture of the femur. The cast keeps the alignment and reduces motion at the site of fracture while traction maintains the normal length of the limb.

I should like to give a word of warning in the non-padded cast treatment. It is mechanically correct, but physiologically wrong. It is true from the mechanical standpoint the fracture is held in perfect apposition and alignment, which is desired. It is also true that the patient becomes ambulatory more quickly than with any other method of treatment, but in any fracture or trauma of any type there is always edema and swelling in ratio to the severity of the trauma, and if this is constricted, as is done in the non-padded cast, you do prevent the size of the swelling in the area of fracture, but in doing this you increase the tension of the edematous tissue, thereby slowing the circulation through this area and in some instances to the extent that gangrene may develop. I consider this method of treatment to be permissible in the hands of an expert in an institution where the patient is under constant observation, but to be put out as one of the routine treatments to the profession as a whole it is dangerous and many a limb would have to be sacrificed, not from the fracture, but as a result of the treatment.

The open operation. Dr. Owen has placed this last in his method of treatment. This is proper, except in my opinion the non-padded cast should be placed in this category. I do not believe any simple fracture should be converted into a compound fracture if it is possible to get proper reduction and normal function by the closed method, but there are conditions in the treatment of fractures when this method must be considered. This method must not be undertaken by anyone who is not adapted and especially fitted for this type of surgery. It must be done under the strictest aseptic precautions. The time of the operation is important; it should be done immediately; if not within twenty-four to thirty-six hours, I would advise waiting some ten to fifteen days before operative procedure is undertaken.

If proper reduction and fixation can be maintained without any foreign substance or osteogenous grafts, so much the better; the wound is closed and treated as any other simple fracture.

There are numerous materials used as internal fixations. They are all good if properly applied in the proper case, and they may all be bad if not. As Dr. Owen stated in his paper, we should use the method of treatment with which we are most familiar and have been able to get the best results.

The after treatment of the fracture is relative to the type of trauma. A simple fracture of the femur with very little injury to the periosteum and soft structure requires simple after treatment, but if the fracture is of the multiple type with considerable laceration of the soft structure, with peeling off of the periosteum over considerable area, the calcareous deposits that have taken place at the site of fracture permeate the devitalized tissue around the fracture. This takes time and considerable amount of treatment to restore to normal function. There are different types of treatment which I have not sufficient time to discuss.

Frank P. Strickler, Louisville: Mr. Chairman and Members of the Society:

I should like to say a few words on fractures of the femur, and present some new material for the treatment of this condition. I feel that we should use every means possible to prevent shortening in fractures of the femur. The short leg puts an added strain on the ankle joint, knee joint, hip joint and on the spine of the individual who has such a condition, and this should be avoided by all means, if possible.

I believe that most fractures of the shaft of the femur can be reduced by skeletal traction, and for this type of traction, I prefer to use the Kirschner pin. I have used the Kirschner pin in about 300 cases of fracture in various parts of the body, and have been able to reduce a large percentage of these cases with the Kirschner wire.

I do not use the Steinman pin because I feel that the possibilities of infection are increased by the diameter of the pin used. Fractures of the femur are major surgical conditions, in my opinion, and cannot be converted into a minor surgical condition by any type of operation. Most of the cases of fractures of the femur, as I have stated, can be reduced by skeletal traction. However, there is a certain percentage of these cases that require an open operation.

For the past fifteen years, I have been looking for material which approaches as near as possible an autogenous bone graft. I believe at this time that I have found such material, and we are using chromocized beef tendons. This material is manufactured for us by one of the leading manufacturers of catgut in this country. It comes put up in a sterile tube exactly like catgut, and is sterile until the tube is broken. The material is in the form of a cuff, and can be applied externally over the periosteum, and held in place by boring holes through the bone above and below the site of the fracture, and then tieing the material in place by kangaroo tendon.

In other cases, this material can be rolled into a tube, and used as an intermedullary splint. When used in this manner, it is also advisable to bore holes through the bone, tieing the splint in place with kangaroo tendons. When the splint is rolled into a tube in this manner, it allows a circulation of fluid to take place through the splint and in no way interferes with the circulation of the medullary canal. This material is well tolerated by the tissues, is not shown on X-ray plates, and is completely absorbed in ninety days. This of course allows ample time for bone union to take place. This material is quite stiff and will hold the bone in alignment, but it is also necessary to use some type of splint to aid in maintaining a correct position.

We have used this material in several cases with good results, and believe that it will be satisfactory in every respect.

RESUME

The material comes in a glass tube completely sterilized.

This material is absorbed in about ninety days' time.

The material does not show on the X-ray plate.

The material can be used as an intermedullary and extramedullary splint, because it is well tolerated by the tissues.

In my opinion, it is the nearest thing we have at this time to an autogenous bone graft.

George A. Hendon, Louisville: I just want to take a sufficient amount of your time to present a method of sterilizing or approaching as nearly as possible the sterilization of these extensive compound comminuted fractures in which there is a great destruction of soft tissue. We all realize that any antiseptic depends not upon its germicidal power, but upon its ability to come in contact with the organism. There are thousands of antiseptics that will kill germs in the test tube but when they are poured in the wound with the expectation of killing germs disappointment is sure to occur. The process might be compared to painting a barn to kill the rats.

We know that germs are endowed with a self-protective mechanism the same as you and I. We know that they do not march out and invite themselves to slaughter. The great infirmity of all antiseptics is their inability to reach the germs which they are supposed to kill and which are hidden in the interstices and recesses of wounds.

With that idea in mind we have found that we can impregnate wounded or infected tissue with germicidal vapor under a pressure that will drive vapor into the remote recesses.

In completing the toilet of extensive wounds always put in two drainage tubes. To illustrate the mode of operation, we will let "A" represent the source, which is the electric socket and "B" represent a pump which we have had Mr. Sorenson of Brooklyn, New York build for us; then we will let "C" represent the heating unit, and "D" will represent a chamber into which may be poured what ever antiseptic you happen to fancy, and "E" represents the patient.

When the current is turned on this instrument will pump vapor into the wound at a pressure, but I do not know how much pressure. We have not added that refinement as yet, but we hope to. We are now guided by the sensation of the patient. The reason for putting two tubes in, is to provide an easy egress for the vapor which is being forced in under pressure. Too much pressure will produce air embolism.

"C" is the heating unit that also derives its heat from the current. This unit has a capacity up to 260 F. and the vapor thus heated can be pumped into the wound without doing any local visible damage. The heated air goes through the chamber at "D" where the antiseptic is contained and converts it into a vapor. We have found it advantageous, to use Tr. Iodine, because it vaporizes readily. If iodine crystals are dissolved in acetone it vaporizes at a much lower temperature.

The idea is to bring the antiseptic in contact with the infectious agents, an idea which is not at all taken into consideration by the antiseptic manufacturers. They tell you how to kill germs in test tubes. There are times when by blowing one breath one can kill germs in a test tube. To get the antiseptic in contact with the organism represents really our germicidal problem of today.

I have found this of great advantage in cleansing all forms of abscess cavities, pleural empyemas, and things of that kind.

W. Barnett Owen, (In Closing): I was just as skeptical in regard to non-padded casts as Dr. Arnold and many others for a number of years, but in the past few years we have used them without having had any bad complications as a result. As he mentioned, it is most essential that the case be kept under constant observation in an institution, at least until it is safe to permit the patient to leave the hospital, because it is possible to get swelling and tightness of the cast, whether it be padded or nonpadded. We find if these splints are put on carefully first and they are not put on tightly they are all right. We usually use about one bandage after we put the splints on to coapt the splints, and in addition to that we have a flat, long rubber tube extending from the top to the bottom and split the cast over this tube. Of course the cast has to be split anyway before it is removed and it doesn't in any way weaken the cast, and if we should have swelling it is very easy to open the cast very quickly.

I think if we realize the dangers and have the patient under constant control as long as there is possible danger to ensue, there will not be the dangers that we have heretofore feared.

Treatment of Sinusitis by Displacement Method.—Gundrum and Semenov believe that the displacement method of sinus irrigation is more effective as a therapeutic procedure for ethmosphenoidal sinusitis than present methods of using sprays, douches and nasal packs. The beneficial results obtained with dilute ephedrine in physiologic solution of sodium chloride, as advocated by Proetz, is no longer open to doubt. The shrinkage action is smooth and protracted, and the total quantity of ephedrine given in the routine treatment seldom creates undesirable symptoms; as a matter of fact, few systemic effects have so far been observed except some slight beneficial action when the sinuses of asthmatic patients are instilled with this solution. The best results are obtained in the subacute catarrhal type of sinusitis. In the more or less chronic cases of simple uncomplicated sinusitis with frequent attacks of postnasal catarrh, the addition of stock bacterial antigen (mixed streptococci, straphylococci and Bacillus coli) to the ephedrine solution is worthy of clinical trial. A dilute solution (10 per cent antigen) can be introduced without discomfort to the patient. If progress justifies a continuation of the antigen, the concentration may be increased until a 50 per cent solution is attained.

TREATMENT OF LOBAR PNEUMONIA*

H. P. Linn, M. D.

Paducah.

Pneumonia causes more deaths in North America and Europe than any other acute infectious disease, and is therefore of major importance. No branch of medicine or surgery can be oblivious to its possibilities for, it is probably the most frequent complication we encounter, and the terminal cause of death in a great many other diseases.

Lobar pneumonia is a disease characterized pathologically by an exudative inflammation of the lungs, and clinically by distinctive local and general symptoms. Though clinically an entity, lobar pneumonia may be caused by a number of different microorganisms, a fact of fundamental importance in the treatment of the disease. But it is known that the various types of the pneumococcus are the etiological factors in over 96 per cent of all lobar pneumonia.

The treatment of lobar pneumonia is governed by the same general principles that apply to the treatment of all serious infectious diseases. The treatment is concerned with the relief of distressing symptoms, general care of the patient himself, and measures for destroying the infectious agent. Despite recent advances in therapy, the resistance of the host is still the most important factor in determining the outcome of the disease.

Absolute rest is essential. The conservation of the patient's strength, in every conceivable manner, is of the greatest importance. Any measure which increases the physical or mental comfort of the patient deserves consideration. Energy conserved by avoiding unnecessary movements may be just that amount required to save an otherwise fatal case. A change of position at intervals is desirable but even this is often overdone. The patient should not be allowed to sit up to use the bedpan, commode or urinal. Preferably he should not sit up for examination of the back, but when this is essential he should be raised gently and supported during the examination.

The chest should be examined sufficiently often to determine the presence of a spread of the lesion, evidence of fluid collection in the pleural or pericardial sac, and the apparent functional state of the heart muscle. Where convenience permits, the frequent use of roentgenograms, by a portable machine, is desirable. In a comparison of the two methods, X-ray and physical examination, the roentgenogram is superior to physical signs in detecting the early lesions and in disclosing the extent of the process while the consolidation is developing.

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The room should be well ventilated but without draughts. A cool to cold room is usually most comfortable to the patient, but individual preference should be respected. The advantage of the open air treatment in winter weather has not been proven.

The importance of proper nursing care in pneumonia cannot be over-estimated, for the general hygienic care of the patient must be scrupulously observed, and I wish to emphasize this particularly with reference to the care of the mouth. Mouth breathing is very common, especially in desperately ill people. The dry, dirty oral cavity furnishes an additional site of potential danger. Recent studies have substantiated the belief that proper attention to the mouth lessens the danger of reinfection or superinfection. Moreover the sense of taste is improved, which makes it easier to maintain an adequate intake of fluids and food, which is very necessary. Proper nourishment must be maintained, with reasonable consideration given to the desires of the patient, to encourage his appetite.

The bowel requires constant attention. Abdominal distention of a variable degree is a part of the disease picture; it is harmful in proportion to the degree to which it limits or embarrasses respiration. It should be prevented and combated by every means at our disposal. Such means as the use of a rectal tube, enema, stupes, pitressin, etc., are valuable, and if necessary the use of the Levine tube. Care must be exercised in purgation. Recently much attention has been given to the theory of the chlorides as a factor in distention: and the maintenance of a proper chloride level as a preventative.

Chest pain may be relieved by the use of a chest binder or by strapping and is recommended by many, but when this is sufficiently tight to relieve the pain it frequently embarrasses respiration and tends toward cyanosis. Many continue to use medicinal applications to the chest. This may be due to custom and to satisfy the family, but the benefit derived thereby is questionable. If it is used, avoid heavy poultices on the chest that will embarrass an already labored respiration.

Codein sulphate seems to be the most effective drug for a harassing dry cough. It is important, however, that sufficient codein not be given to abolish the cough reflex. The virtues of morphine in pneumonia are well known. Nevertheless it should be remembered that in some cases associated with relatively high grades of pulmonary edema and cyanosis, repeated doses of morphine may bring about sufficient respiratory depression to cause grave decrease in the oxygen content of the arterial blood. The simultaneous administration of atropine is generally believed to lessen this respiratory depression.

Stimulants will be needed at times in various cases, and when called for should be given sufficient to obtain the desired results. Alcoholics will do better with whiskey or brandy than when it is abruptly withdrawn from them.

The intake of fluids must be watched. From three to five thousand c.c. daily are usually required for the average patient. It is very easy to overlook the insensible loss of fluids due to high temperature, and at times profuse sweats. Dehydration is an added hazard and has no doubt, in many cases, turned the battle against the patient. If indicated, do not hesitate to furnish the needed fluids subcutaneously or intravenously in whatever chemical form seems best suited for the individual case.

Under the head of symptomatic treatment many conditions, too numerous to mention, may arise which will test the resourcefulness of the attending physician, and most often have to be met with the best weapon at hand.

Treatment of pneumonia is never complete or discussion ever settled without raising the question of the use of digitalis. Digitalis should not be regarded as an agent necessarily having an influence on the pneumonic or pneumococcic infection and does not seem to influence the course of events in lobar pneumonia. In the absence of cardiac decompensation or auricular fibrillation or flutter, it is difficult at the present time to justify the routine digitalization of patients with pneumonia. It is possible that digitalis in moderate doses, say of one to one and one-half grains three times daily, will do no harm and possibly may afford better myocardial tone in patients with any preexisting cardiovascular disease.

Oxygen, as is digitalis, is not recommended as a routine measure in pneumonia but in a case in which it is needed it is probably life saving to that patient. The principal indications for its administration are dyspnea, cyanosis, rising pulse and respiratory rates and delirium. For the best results to be obtained, the administration should be started at the first appearance of cyanosis and dyspnea, and continued until these features are absent. Oxygen may be administered in an oxygen chamber, an oxygen tent or by nasal catheter. The best method of administration is the oxygen chamber or room which is available only in a few hospitals. The use of the oxygen tent is probably more widely used than any other, but the nasal catheter is always available for use.

The optimum concentration of oxygen in air circulating in a tent is about 50 per cent. Higher concentrations should be used only for short periods. In a good tent an oxygen flow of six to eight liters per minute will maintain an oxygen content of about 50 per cent. This may be at times greatly offset by the accumulation of expired carbon dioxide, and in the more improved tents this is overcome by the use of a soda-lime absorption which removes the carbon dioxide. The matter of expired air, temperature, humidity, etc., within the tent must be governed. If no convenient or accurate way of measuring the flow of oxygen is at hand, it is estimated that the flow of gas bubbles through a water bottle slightly faster than one can count, will give approximately this amount. Efficient oxygen administration interfers in no way with the simultaneous use of any other form of treatment. The danger of an explosion and fire from a super-charged air should not be overlooked, and warning given to those in charge. Several accidents have been reported from the injudicious use of candles and alcohol lamps.

In the treatment of lobar pneumonia artificial pneumothorax is being used in many hospitals as a therapeutic measure, and its proponents present dramatic results that are apt to stimulate undue enthusiasm, for it is still in the experimental stage.

There is insufficient evidence to warrant the use of artificial pneumothorax in the treatment of lobar pneumonia except in large hospitals amply equipped for bacteriologic, serologic and roentgenographic studies, and then only in certain selected cases. The favorable results thus far recorded deal almost solely with patients in the early stages of the disease and without bacteremia, and in pneumococcus types that otherwise have a low death rate. Even those advocating this therapy do not recommend it for patients with well established consolidation, patients with bilateral lesions and in those appearing for treatment after the third day of the disease. No one can selectively collapse the involved lobe, and it may remain uncollapsed, though the normal lobe shrinks. The introduction of air into an inflamed pleural sac presents conditions favorable to the development of fluid that may become purulent. Separation of the pleural surfaces precludes the localization of empyema should it occur as a spontaneous complication. A critical analysis of available data shows a mortality of 29 per cent. In view of the fact that the general hospital mortality of lobar pneumonia ranges from 25 to 35 per cent, it would appear that artificial pneumothorax had no influence on the death rate of this disease.

Diathermy has its advocates, but I have had no personal experience with this form of therapy.

There are many who believe that various salts of quinine exert a more or less specific action on the pneumococcus. One, under the trade name of Optochin, has been used quite extensively and many have reported favorable results from its use.

The vaccine treatment has never gained wide popularity in this country although some foreign authorities are quite enthusiastic over its possibilities. With the work being done on serum and various types of the pneumococcus, it is possible that a vaccine for immunization, similar to that of typhoid and diphtheria, will be developed.

At present there are thirty-two classifications, or types of the pneumococcus, twenty-nine of these being grouped by some under the head of type IV. With this recognition of classified types began the work of developing a specific serum, and the most out-standing advancement in the treatment of pneumonia has been the development of anti-pneumococcus serum for the treatment of types I and II. Much research is being done in efforts to develop a serum for all types, and while this has been done experimentally in several types, the serum is used at present clinically only in types I and II. In the highly virulent type III no serum is available, and many report a slightly higher mortality in this type when the Polyvalent serum is used, than in the controls. In other types some report the polyvalent serum seemed to lower the mortality rates, but many workers claim this is due to an error in classification of the type. The most frequent type of pneumococcus encountered in lobar pneumonia are types I, II, III, VIII, VII, and V, in that order, and these comprise about 80 per cent of all cases.

Felton, of Harvard, has developed a serum which over a period of years has been refined and concentrated, which is now practically a standard serum. Yet as this work goes on it is reasonable to believe that a more efficient serum will, in time, be produced. Huntoon developed an anti-body solution by removing the protein from the serum, which gave promise of great results, but the intense thermal reaction induced by its administration caused it to fall into disfavor. Many workers yet believe that the chill-producing factor will be removed, and it will come into greater use than the serum, because of its freedom from any anaphylaxis, and serum sickness, due to the presence of protein.

There is the same danger in administering the anti-pneumonic serum as in any refined horse serum which is given intravenously and before this is undertaken a careful study of the individual and the disease should be made. A history should be taken with careful inquiry made into any sensitiveness or allergy manifested as hay fever, asthma, urticaria, etc., and previous use of any serum or antitoxin and its reaction. An intracutaneous and conjunctival test should be made in every instance. A positive conjunctival test indicates a sensitive patient, and a severe reaction may result from the use of the serum; a positive skin test is an indication for extra caution.

To obtain the best results from the use of the serum, a case should be carefully typed, and theoretically it is more desirable to postpone the administration of serum until a type is positively identified, but this is not practical in every case not in the better hospitals. To obtain the greatest benefit from the serum it must be administered early in the disease, therefore the loss of time in typing may result in small benefit from the serum. Considering that 50 per cent of the pneumonias are due to type I and II, some use the analogy of the suspected diphtheria and give the serum while awaiting typing, discontinuing it if the typing indicates. When the serum is used in this manner it should be limited to those who are between twenty and fifty years of age; who have typical primary acute lobar pneumonia; who are treated within the first four days of the disease; who are not allergic or serum sensitive; and who have no other serious organic disease.

When it is decided to give the serum one should assure himself that the necessary equipment is at hand. A Luer syringe is better adapted for slow intravenous injection than the syringe furnished by some biological concerns. The syringe should be free from any moisture as this will cause precipitation or coagulation of the serum. The serum should be warmed to body temperature, but if this temperature is exceeded a coagulation of the serum will result. Excessive heat will also destroy the antibodies. A syringe loaded with 1 c.c. of adrenalin should be at hand for use in the event of any reaction; and in case of doubtful sensitiveness it is well to administer approximately 5 min. of adrenalin five to ten minutes before administering the serum. If a blood culture is desired a flask containing a medium should be ready and the blood collected from the same needle through which the serum is to be given.

It is safer to use a tuberculin syringe and begin the first intravenous dose by injecting the smallest amount possible, waiting about one minute, and repeating this about five times after which, no reaction being noted, the remainder of the c.c. may be given. If after twenty to thirty minutes no reaction is observed, the standard dose of ten thousand units may be given at the rate of not more than 1 c.c. per full minute.

The amount of serum necessary or indicated for the individual case will vary, and different authorities vary in their opinion. The initial dose in the average case is usually ten thousand units followed in one to two hours by a dose of twenty thousand units, which is repeated every one to six hours until therapeutic results are obtained. The average moderate case should receive forty thousand to fifty thousand in the first twenty-four hours or double this amount in the severe cases. Larger and more frequent doses are needed in type II than in type I cases. It is generally accepted that if after two-hundred thousand units are given, or no improvement noted within forty-eight hours, that further serum treatment will be of no avail. The indications of improvement, or therapeutic effect of serum, are noted by the general condition of the patient being markedly improved; the temperature and pulse rate drop; the respiration is slower and less labored, cyanosis, delirium and prostration are relieved and there may be sweating and a feeling of exhaustion similar to that occuring with a spontaneous crisis.

Some authorities claim that if the serum is administered early and in sufficient quantity it will reduce the present mortality two-thirds in type I, and one-half in type II.

Cecil and Sutcliff show in taking all cases in which a polyvalent serum was used, a mortality of 30 per cent, with 40 per cent in controls. Statistical records on the use of serum early in the disease show in type I a mortality less than 10 per cent in those cases receiving serum within the first four days, and 23.5 per cent in those receiving it after the first four days, with 33.6 per cent in controls. Type II shows a mortality of 29.6 per cent in those receiving serum in first four days, 38.7 per cent after four days, 45.3 in controls. In those cases with a bacteremia: Type I shows a mortality of 35.8 per cent in those receiving serum, with a mortality of 71.2 per cent in those not receiving serum. Type II a mortality of 58.8 per cent in those receiving serum, with a mortality of 81.1 per cent in those not receiving serum. Type III no serum given but a mortality of 93 per cent. Type III is much more prevalent in persons of sixty years or older, which may help account for the high mortality rate in the aged.

The outcome of a case of lobar pneumonia depends largely on what might be termed the severity of the disease, which in turn depends particularly on the presence of bacteremia. Bacteremia, or rather the degree of blood invasion, is the greatest factor in the mortality rate of pneumonia; statistics showing a relative death rate of 78 per cent in those with bacteremia, while those with sterile blood culture was less than 10 per cent. The effect of serum on fatality appears to be exerted largely in those cases showing a bacteremia, and one in whom a pronounced bacteremia has developed will need a much larger amount of serum than one in whom the blood is sterile. Bacteremia bears witness to the importance of instituting serum therapy at the earliest possible moment, in that once bacteremia has localized in a vital structure, no amount of serum will avail, and an increase in the dosage cannot compensate for a delay in administering it. The early use of serum has a marked effect in preventing septic complications, such as empyema, heart lesions, meningitis, etc., which when established often prove fatal even after serum renders the blood culture-free.

Treatment with specific antiserum affords the only certain means of favorably modifying the death rate of lobar pneumonia, but cannot be expected, even under optimal conditions of administration, to save every patient. Pneumococcus toxemia, complicated by the degenerative changes incidental to advancing years, is an important factor in limiting the success of the natural forces of recovery and of specific serum therapy.

The specific treatment of lobar pneumonia has thus far been used to only a limited extent outside of general hospitals. For the general adoption of specific treatment, reliance must be placed on the medical profession, and the chief responsibility rests on the physician in general practice. Lobar pneumonia should be regarded as a medical emergency and the type of pneumococcus infection determined at the earliest possible moment for success or failure in treatment depends largely on the early or late use of the serum.

One factor responsible for the serum not coming into more general use has been the cost, which makes it prohibitive with many patients, especially when we can not give positive assurance as to the results. A severe allergic, immediate or delayed reaction, a thermal reaction, or serum sickness, in one case may prejudice many against its use. The doctor himself is apprehensive of a reaction from any serum given intravenously, and the present anti-pneumonia serum is useless when given subcutaneously. When it is developed to a degree that it is efficacious, subcutaneously, and the cost lowered, or fewer doses required, it will come into widespread use.

Howeyer the proof of its effect on the mortality rate is so well recognized that even now some cities and states, notably Massachusetts and New York, are furnishing this serum through their Health Department to those financially unable to provide it.

THE TREATMENT OF CONGENITAL SYPHILIS WITH STOVARSAL*

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Covington.

Those who have had experience in treating infants with congenital syphilis realize the many drawbacks to the injection method and can remember many patients who received irregular treatment or none at all, because their parents would not allow their youngsters to be stuck each week. The advantages of the introduction of an effective preparation which can be given by mouth are so obvious as to require no comment.

Acetarsone, or Stovarsal as it is known in this country, is a pentavalent arsenic compound with the formula: 3-Amino, 4-Oxyphenyl, 1-Arsenic Acid. It contains 27.1 to 27.4 per cent arsenic and is number 594 in Ehrlich's series of arsenic compounds. Its general name is Acetarsone and is called Stovarsal by the French and Spirocid by the Germans. It is sold in this country also under the name of Stovarsal. After its discovery by Ehrlich about 1911 and due to his views that Trivalent arsenic compounds were more effective and less toxic than the pentavalent ones, Stovarsal was little used until Trefouel in 1921 reinvestigated some of Ehrlich's pentavalent compounds and reached the conclusion that their toxicity was due to impurities rather than the drug itself. In 1921 and 22 Levatidi and Navarro-Martin working with experimental Syphilis and L. Fournier, Guérnot and Schwartz with human syphilis reported successful treatment of the disease with Stovarsal. In the years from 1921 to 1932 numerous reports of success appeared in the French and German literature regarding this preparation in the treatment of congenital syphilis.

In 1932 the first articles appeared in the American literature. A. F. Abt and Alfred S. Traisman reported 55.9 per cent of twenty-two children had negative serology after one course of treatment. However most of these were in infants under one year of age. Another report in the same year by H. A. Rosenbaum showed excellent results particularly in nine infants under one year, all of whom had serological reversals after one year of treatment. Since 1932 articles have appeared by H. A. Rosenbaum, A. S. Traisman, J. Yampolsky, J. F. Coppolino, C. F. Friedman, A. S. Traisman, all reporting results which are the equal if not superior to those obtained with other arsenicals. It is striking that almost all investigators remark about the tonic effect and the nutritional improvement of the children under treatment.

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*Read before the Kentucky State Medical Association at Paducah, October 5, 6, 7, 8, 1936.

The report here presented shows the result of the treatment in the Children's Syphilitic Clinic of the Cincinnati General Hospital and the Clinics of the Babies Milk Fund Association. The material consists of ninety children who have been treated with Stovarsal only, for at least one course, and who have had a serological check up. Twenty other cases which have been treated with other arsenicals before starting Stovarsal also will be discussed. For the purpose of comparing the effectiveness of treatment when started at various ages the ninety are again divided into three groups. There were forty-four infants under one year of age, fifteen children over one year but under four, and thirty-one over four years of age.

In the literature there is a great difference of opinion regarding the effective dosage, though almost everyone agrees that it is necessary to start with a small daily dose and to increase it gradually. In general there are two main types of dosage: Those following Tscherer's method of giving twenty-one grams of Stovarsal over a period of forty-one days regardless of the size of the patient and those using the method of Alois Bratusch-Marrain. These latter use a smaller dose and graduate it according to the weight of the child and extend their treatment over a sixty-three day period. As an example a ten kilogram child would get only ten and one half grams or only one half of Tscherer's dose over a period one third longer. Most authorities recommend a rest period of four to six weeks between courses.

The routine which we use is a middle-of-the-road one outlined by C. H. Maxwell and Jerome Glaser and is as follows:

Each tablet contains 0.25 grms Stovarsal.
¼ Tablet once daily for one week
¼ Tablet 2 times daily for one week
¼ Tablet 3 times daily for one week
¼ Tablet 4 times daily for one week
½ Tablet 3 times daily for one week
½ Tablet 4 times daily for one week
1 Tablet 3 times daily for one week
Total 7 weeks—63 tablets (16 grms.)

The Stovarsal is followed by a four weeks' rest period during which daily mercury inunctions are used in order to have continuous antisyphilitic therapy. After three such courses a rest period of three months is allowed and then another course of Stovarsal is given. This is followed by a six months rest and thereafter treatment is given only if the Wassermann becomes positive or symptoms are present.

The diagnosis of congenital syphilis in infants under three months of age, who have negative serology and no symptoms but whose mothers have known syphilis, is a difficult one and to say which of these shall receive treatment is a matter of individual judgment. However, in view of the fact that some children with negative cord serology develop syphilis after several weeks and some who are positive become negative later and since we know that the disease is much easier to control if treatment is started in the first few weeks of life, it has been our policy to treat all infants whose syphilitic mothers have had inadequate treatment during pregnancy or in whom the history of the mother has been very suggestive of syphilis, i.e., those with still born infants or other syphilitic children, regardless of the cord Wassermann reactions or even if the infants' bloods are negative. This will arouse the criticism that many of these children are not syphilitic and we agree that this is true. However, in the absence of more accurate means of diagnosis and considering that the future of these children is at stake we believe that it is better to treat them than to wait.

The criteria of cure in congenital syphilis are generally considered to be the persistence of a negative blood and spinal fluid Wassermann test and the absence of any signs of active syphilis for a period of one year after the cessation of adequaee treatment. Jeans and Cooke in their excellent monograph on the subject made the statement that their experience with a considerable number of children has failed to reveal a single instance where clinical syphilis has developed in a patient who had reached the point where the Wassermann reaction on the blood and spinal fluid had remained negative for as long as a year. However, children who have had congenital syphilis should be watched closely for symptoms and have their blood checked yearly for several years.

The success which we have had in obtaining serological cures closely approximates that in other American reports. If our figures seem higher than theirs, it is probably due to more doubtful cases in our series. The following table shows the number of cases which had negative Wassermann or Kahn tests and the courses of therapy required to obtain them. In these cases which have positive blood tests the number of courses required to clear up the symptoms or where there are no symptoms the total amount of treatment given is indicated.

			COURSES TREATMENT					OVER
			1	2	3	4	5	5
Under 1 yr.	44	Neg. Serology-Well	18	17	1			1
		Pos. Serology-Well	3	1			1	2
Over 1 yr. and under 4 yrs.	15	Neg. Serology-Well	1	2				
		Pos. Serology-Well	2	3	3	1	1	2
Over 4 yrs.	31	Neg. Serology-Well	1	5				
		Pos. Serology-Well	10	4	2	1	2	4

From the above table it is evident that the group started under one year of age is the most hopeful group. Of these 84 per cent became negative and 16 per cent remained positive.

The following table shows the distribution of cases in the group under one year according to the findings at the start of treatment and the final result of treatment:

	SEROLOGY	
	POSITIVE	NEGATIVE
Pos. Blood Wass	4	10
Pos. Cord Wass.	1	7
Symptoms and History	2	3
History only	0	17

From the above table it will be seen that these infants with history only before treatment all had negative serology after one or more courses of Stovarsal. If this group of seventeen children all under three months is taken out, the figure for negative Wassermanns will be 74 per cent.

For the group started after the children were over one year of age Stovarsal is not so effective, since only 20 per cent became negative in those over one and under four years and approximately the same figure for those over four years. In one instance (the only one in the whole series) an infant in the 1st group became negative after five courses and after six months rest returned with a positive blood Wassermann.

The treatment of congenital syphilis with Stovarsal is not very effective after they have had a year or more of other arsenical therapy, probably because these children represent the so-called Wassermann fast cases. We have had twenty such cases and though some of them have had as many as eight or ten courses only two of the twenty have shown a negative Wassermann reaction.

The effectiveness and rapidity with which Stovarsal will cause the disappearance of active syphilitic lesions is shown in the following table. This includes some cases in which the symptoms cleared but the patient did not return after the first course. Some of these cleared after three or four weeks treatment.

SYMPTOMS	COURSES—MORE THAN				
	1	2	3	4	4
Snuffles	13				
Skin Eruptions	5	1			
Periostitis	3	2			1 not effected
Epiphysitis	2	4			
Synovitis	2				
Ulcers	1				
Enlarged Lumph Knodes		2			
Enlarged Spleen	1				1 not effected
Keratitis		2			2 + Bismuth

From the foregoing table it is apparent that the more active lesions, i.e., skin, mucous membrane and bone and joint lesions respond most rapidly to Stovarsal, while less active ones as Keratitis take longer to heal and frequently need some other treatment such as bismuth to clear them up entirely.

In our clinics the relative difficulty of doing spinal puncture, the infrequency of positive findings in adequately treated cases and the knowledge that insistence upon them is one of the surest ways of losing patients and thus not giving any treatment to these children, has kept us from doing them routinely. When the need arises we admit them to the hospital and do the lumbar puncture there. In the few cases of neuro syphilis which we have had, the treatment with Stovarsal is more effective than other arsenicals.

Stovarsal is not without its dangers, reactions do occur, some of them dangerous and even fatal. Those reported in the literature include Encephalitis, Myelitis, Exfoliative, Dermatitis and other arsenic eruptions, Agranulocytosis, Aplastic Anemia, Jaundice, Fever, Albumuria, Diarrhea and Vomiting. Most of the severe reactions seem to be in the nature of sensitivity to arsenic and are such as occur with arsphenamine. It seems that exfoliative dermatitis and other arsenic eruptions are almost always preceded by itching and at this latter symptom the treatment is always discontinued. After two or three weeks of rest the patient is then placed on bismuth therapy.

The following table shows the reactions which occured and the age of the patient:

REACTIONS	AGE OF PATIENT Under 1 yr.	Over 1	Over 4
Vomiting	4		
Diarrhea	9	1	
Eruption			1
Albuminuria		1	4
Anemia	1		
Jaundice	1		

From the above table it is seen that vomiting occurs most often in young infants and after a rest period of one or two weeks, treatment may be safely resumed. The same applies to diarrhea, though in two instances it was necessary to discontinue Stovarsal permanently. Albuminuria occurs most often in children over four years and after a rest period the Stovarsal may be resumed. The anemia, the result of congenital syphilis, responds rapidly to Stovarsal and is found more often in infants while anemia, the result of prolonged Stovarsal treatment, occurs in older children and necessitates stopping the drug at once. One of our youngsters who has previously been reported in the literature developed an almost fatal aplastic anemia after sixty grams of Stovarsal and recovered only after twelve blood transfusions and large doses of Pentonucleitide. Since a few reactions have occurred in cases not having had enough treatments to be included in the group as a whole, the reactions which are shown in the table are the only ones which have occurred in one hundred fifteen children who received some treatment. In five instances the reactions were of such severity as to make it necessary to discontinue Stovarsal permanently.

Conclusion

1. Stovarsal is the treatment of choice in congenital syphilis.

2. It is not without its dangers. Treatment should not be attempted without routine weekly urine examinations, diligent questioning of the mother and examination for itching or skin eruptions, blood examinations at regular intervals and physical examination after each course of treatment.

3. Symptoms which resist treatment with Stovarsal are those in which no form of arsenical therapy is of much benefit.

DISCUSSION

T. J. Marshall, Paducah: I have found congenital syphilis to be a very unsatisfactory condition to treat, as most of the cases that I see are in the charity service at the Riverside Hospital, and this class of practice does not cooperate very well, as a rule, for as soon as the clinical symptoms clear up I usually lose contact with the family and the patient.

In the better classes of society, if the patients have had syphilis they have usually been intensively treated over a long enough period of time to bear children than have no evidence of syphilis, either clinically or serologically. This has proven to me that the time to treat congenital syphilis is during pregnancy.

It is not always easy to know whether or not a baby born of a mother who has syphilis, and who had had what we might think was sufficient treatment during pregnancy, should be treated. I have not relied on the baby's blood Wassermann, as I have been under the impression that a baby born of a syphilyitic mother would be apt to have a negative Wassermann for the first few weeks of life. I have had no experience with the examination of the cord blood, but my practice has been if the mother has had proper anti-syphilitic treatment during pregnancy and the baby seems to be free of clinical syphilis and does well, to wait a while for evidence of syphilis, either clinical or a positive blood Wassermann. If the mother has had no treatment and has a history of having had syphilis or has given birth to stillborn babies or has had abortions, I examine the mother's blood, and if she has a positive Wassermann, begin treating the baby.

Stovarsal in the treatment of congenital syphilis has met with a ready response in the hands of those who treat babies, for it is given orally, and as Dr. Van Derman has stated, it is not an easy matter to administer medicine in the vein of a small baby. Also, as stated by the essayist, the parents object to having their babies subjected to hypodermic medication; furthermore, with stovarsal fewer visits are necessary.

Since Apt and Traisman published their article, stovarsal has been used in the treatment of congenital syphilis by a great many physicians, and I do not recall anyone condemning the drug. It is true that there is a certain amount of danger in using stovarsal, but this applies to any of the arsenicals. I have had two babies die soon after the administration of sulpharsphenamine in the muscle. So far I have had no untoward symptoms following the use of stovarsal.

I have been well pleased with stovarsal in the treatment of the few cases of congenital syphilis that I have seen, and I was glad to learn from Dr. Van Dermark's paper that his experience has been satisfactory in the treatment of so large a number of cases.

I still use mercury by inunction in treating congenital syphilis, regardless of any other treatment being used. It seems to me that stovarsal clears up the congenital syphilitics as rapidly as any other method of treatment, both from a clinical and serological standpoint, and the ease of administration makes it adaptable to the treatment of infants when ever the arsenicals are indicated.

Mechanics and Biology of Tuberculous Cavities.—Coryllos presents clinical, experimental and pathologic data which he believes cannot leave any doubt on the paramount importance of the bronchial outlets of tuberculous cavities in the evolution and the fate of the latter. The mechanism of the changes occurring in these cavities from their formation to their closure is regulated by the physiologic functions of gas exchange and gas absorption of the lung.

UNDULANT FEVER, DIAGNOSIS AND TREATMENT*

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Glasgow.

When Undulant Fever is under discussion it would be incomplete not to refer to Bang's disease in cattle which is the most important source of infection. Bang's infection in cattle is widespread in this country and 13 per cent of 3,300,000 cattle tested during 1935 were positive reactors. This is only a small group of cattle and if the same percentage prevailed after all herds were tested then we could realize what a tremendous reservoir of infection we are tapping daily.

Bang's infection in cattle represents a great economic loss to the cattle raiser; and Undulant Fever in man represents a still greater loss to the country in medical care and in man power. Undulant Fever is very disabling even in its chronic stage and generally occurs during the most productive period of life. There is much evidence that it occurs in the young and in the aged more frequently than formerly suspected.

This paper is based upon a study of fifty-four cases found in this county during the past year. Four of these cases were acute and fifty were chronic with long standing disability and many of the chronic cases were considered neurasthenic or neurotic. When we consider how prevalent Bang's infection in cattle is, Undulant Fever should develop from the obscurity of a rare disease to the reality of a major health menace. Undulant Fever should be sought for in our practice and we should acquaint ourselves with its clinical manifestations.

Clinical Symptomatology

The symptomatology of Undulant Fever may be better described under the two forms, acute and chronic, although in the literature such types as intermittent, ambulatory, undulatory, malignant and subclinical are described. The acute form of the disease may have an insidious or sudden onset. The acute phase of the insidious onset may be preceded by malaise, general aches and a feeling of general ill being. The acute phase may be initiated by a chill, followed by fever, severe headache, aches in back of neck, backache radiating to hip joints, profuse sweating, rapid weight loss, fever without sensation of fever, and general aches and pains. Oftentimes the skin, scalp and teeth are complained of being very sore. The pain at times is intolerable and generally is worse in head, back of neck, and lower lumbar region. Chills and chilliness and aches and pains may persist. Also complaints of palpitation, sensations of cessation of heart action, and smothering are frequent. All these symptoms except fever are out of proportion to physical findings.

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The chronic stage follows the acute, but in many cases of proved chronic undulant fever no acute stage can be recognized from history. Evidently some of these cases run a somewhat (if it may be so called) chronic course from the beginning. And again probably many have had the infection for years dating from childhood or early adulthood when clinical history is not well recalled and from time to time receive massive reinfections with flareups. All flareups are not due to reinfections but are the natural exacerbations and remissions of this disease. The chronic stage is characterized by malaise, general aches and pains, palpitation, weakness, tiring on exertion, choking or smothering sensations, nervousness and partial disability. The symptomatology of undulant fever is protean in its manifestations and may range from few to many and may occur under any system of the body. Under the skeletal system, general aches and pains, backache, aches in back of neck, muscle soreness and arthritic pains may be complained of. In the respiratory system, cough, expectoration, choking or smothering sensations, occasional blood streaked sputum and hemoptysis, pains and burning sensations in chest, hoarseness, bronchial irritations, nasal and post pharyngeal discharges, sneezing, and weakness of voice may be complaints. In the gastro-intestinal system, anorexia, vomiting, indigestion, constipation and pains referable to region of gall bladder, spleen, appendix or any other abdominal organ may be experienced. In the genito-urinary system there are complaints of frequency, burning of urination, pain in region of ovaries or pain in testicles, sensations of flooding, amenorrhea, intermenstrual bleedings of brownish discoloration, and these patients frequently give history of abortions. In the nervous system there are quite a few symptoms encountered such as fainting, "loss of nerve," temporary loss of power of locomotion, impairment of memory, somnolence, insomnia, nervousness, delirium, headache and backache, loss of sense of taste and smell, burning and tingling sensations in skin and scalp. Palpitation with or without exertion is the most frequent symptom in the circulatory system and many patients believe they have heart disease. Pains in precordium and sensations of cessation of heart action are frequent complaints. There are many other general symptoms in addition to above which may be classified under different systems of body such as fever, chills, night sweats, profuse perspiration, loss of weight, weakness, and general aches and pains.

We see from the above that all systems of the body may be involved. In many cases, although there may be symptoms referable to all the systems, the symptoms referable to one system may predominate in severity. Therefore we may see the reason for many varied diagnoses. In this series of patients one had only two symptoms while many others had nearly all the symptoms enumerated above. Multiplicity of symptoms and sparsity of physical findings should make one suspicious of Undulant Fever. This combination of symptoms and physical findings in the past has labeled the majority of the patients as neurasthenic or neurotic. The diagnoses previous to that of Undulant Fever in these cases have been Tuberculosis, Influenza, Typhoid, Encephalitis, Cystitis, Ovarian Tumor, Arthritis, Phlebitis, Menopause, Peptic Ulcer, Pleurisy with Effusion, Dry Pleurisy, Pyelitis, Sciatic Neuritis, Bronchitis, Malaria, Hysteria and Insanity.

Physical and Laboratory Findings

In the acute case the patient may be found severely sick with chill, fever to 103-104 degrees F. and increased pulse rate. Oftentimes skin is tender to touch and neck muscles particularly are painful on examination. There may be generalized tenderness all over body. Definite physical findings are sparse unless the patient has a complication and then physical findings are those of the complication. The agglutination test and skin test may be positive if taken ten days to two weeks after onset of disease, but agglutinins may not develop for several months.

Also in the chronic case the physical findings are relatively sparse. There may be a moderately increased pulse rate and low grade afternoon fever. In those cases that have rheumatic symptoms, muscle, joint and nerve tenderness may be elicited. In the respiratory cases may be observed a pharyngeal and laryngeal injection, tenderness over certain areas of thoracic wall, and in an occasional case sparse inspiratory rales after cough. In the abdomen may be found generalized tenderness and occasionally tenderness localized over certain visceral regions. Splenic enlargement has not been observed as frequently as reported by many authors. Skin lesions of exfoliative nature were observed frequently in this series of patients. Blood counts have shown a leukopenia and a lymphocytosis associated with a secondary anemia.

DIAGNOSIS

We should not depend too much upon the old text book descriptions of this disease for making a diagnosis. After studying a small series of these patients it will be observed that the symptomatology is rather characteristic and not as standardized as suggested by text book descriptions.

The diagnosis is first suggested by the clinical symptomatology which has been discussed above. When Undulant Fever is suspected it should be confirmed by agglutination and skin testing. It was once thought that a positive agglutination test of Undulant Fever was not diagnostic unless in a dilution of 1:80 or higher. We frequently have patients who have positive agglutination tests in less than 1:80 dilution and upon repetition of test have positive reaction in greater dilution than 1:80. Some authors state that agglutinins may not develop until a year after contracting the disease. Others state that agglutinins do not develop in five per cent of patients. Many state the agglutinating titre of the blood is not constant and may be absent at times. If it is so difficult to develop and maintain agglutinins of the Brucella organism in the blood it seems that positive agglutination in any dilution should receive serious consideration. Agglutination tests were made on a series of 130 patients. Fifty-two of these had a positive reaction in any dilution. Forty-five had positive reaction to the Melitensis group and 37 had positive reaction to the Abortus group. It may be mentioned here that 102 of these 130 patients had also agglutination tests for Tularemia made. Three unsuspected cases of Tularemia were found. Since the symptomatology of chronic Undulant Fever and chronic Tularemia is similar the two may have to be differentiated at times.

The intradermal test may prove to be more important in diagnosis than the agglutination test on account of the inconstancy of agglutinins. It is made intradermally with .05 to .1 c.c. of any Brucella antigen. The typical reaction may be described as follows: generally a non specific reaction of redness and some swelling occurs during first twenty-four hours and begins to subside before forty-eight hours. At or after forty-eight hours a relatively small area of redness and induration appears around site of injection. This may or may not increase in size up to the fourth day but after this the induration and redness gradually decrease in size until disappearance of induration. A reddish brown discoloration persists for one month or longer. The severe reaction described by Yeckel & Chapman has been observed but not so frequently as the above. It has been observed that pitting at site of injection may follow the severe reaction about three months after the skin test. It was observed in one case that the onset of the reaction made its appearance as late as the fifth day; in another the fourteenth day. An immediate reaction in many cases occurs in some degree following the intradermal test. This may have some diagnostic significance.

Eighty-six patients were skin tested. Many of these had suggestive positive skin tests but only thirty were followed over a period of time. It is not necessary to watch the skin test for a month in order to determine if it is positive. One should be able to determine a positive reaction by two weeks and where the reaction is severe and persistently so for a week but with some diminution in size one would be safe to describe as positive.

The administration of Undulant Fever vaccine in the treatment of this disease may also act as a therapeutic test. Patients who do not have Undulant Fever have no reaction from the vaccine but those who have the disease generally have a local reaction of redness, pain and swelling around site of injection and a general reaction of malaise, general aches and pains. This reaction varies in severity and is oftentimes severe. A few patients do not have this type of general reaction but experience a feeling of relief from their former symptoms.

The blood picture in Undulant Fever shows a secondary anemia and a leukopenia with a lymphocytosis. This may be a diagnostic aid. The opsonocytophagoic test also may help in the diagnosis. If in this test the patient's leukocytes show an ability to ingest a large number of the Brucella Melitensis and Abortus organisms then Undulant Fever may be suspected. This test may also prove to be of value in the treatment of Undulant Fever by means of immuno-transfusions.

The finding of Brucella Melitensis and Abortus organisms in the blood stream would be diagnostic but this is more difficult than the other methods discussed and the ordinary laboratory is not equipped for culturing the Brucella group.

TREATMENT

Prevention of Undulant Fever may be more successfully carried out than treatment. The government made an appropriation for 1934-35 to be used through the Department of Agriculture for testing cattle for Bang's disease and eliminating positive reactors. No other appropriation has been made and this program of testing and elimination has been abandoned. Physicians, public health departments and the consuming public should demand the nation's milk supply come from cattle free from Bang's disease.

Symptomatic treatment of Undulant Fever gives some relief but does not shorten course of disease. Where severe pain is encountered morphia in large doses has to be used. Bromides and luminal may control the nervous phenomena to some extent. The diet should be extracted. Also in the chronic erals. Absolute bed rest is as important as in Tuberculosis and overtiring, worry and mental shock particularly should be avoided.

In the old chronic case before active treatment is begun all foci of infection should be eliminated. The teeth are prone to develop apical abscesses in this disease and these should be extracted. Also in the chronic case symptomatically the infection tends to localize in some tissue of the body which acts as a focus of infection. In some this may be the lungs; in others the genito-urinary tract and in others the gastro-intestinal tract. These cases are much more resistant to treatment. Early diagnosis also is important from the standpoint of treatment. The acute case probably responds to treatment more successfully than the old chronic case.

The plan of treatment has been .25 c.c. of undulant fever vaccine intramuscularly and increasing by .25 c.c. every third day until 1 c.c is reached. The 1 c.c. may be given 4 or 5 days until five to seven doses have been given depending upon the reaction. In two cases smaller doses have been used and given over a longer period of time. This may be a better plan in the very weak patient.

In one case a non specific protein was used unsuccessfully. In two cases entolysate was used with some improvement symptomatically. This probably has no effect upon the Undulant Fever but may have helped to clear up the secondary infections. No experience has been had with immuno-transfusions but direct blood transfusions of one patient gave symptomatic improvement.

CONCLUSION

1. Bang's Disease in cattle is a tremendous reservoir for Undulant Fever infection in man.

2. Fifty chronic cases and four acute cases of Undulant Fever have been found in this community during the past twelve months.

3. Diagnosis was made from history and symptoms, agglutination testing, skin testing and therapeutic test as confirmation.

4. Undulant Fever vaccine was used in treatment with moderate success. Prevention should be more successful than treatment.

DISCUSSION

W. M. Chapman, Glasgow: In any consideration of undulant fever one thinks first of the cows. In Barren County we have at least 14,000 cows. I say at least, because I am using tax collectors' figures and our relationships with tax collectors are usually very modest. On these cows 8,000 tests were made for Brucella organisms. Some of these were re-tests, however, so that 3500 individual cows were actually tested. Of this number 150 were found to be positive. This amounts to about four per cent of the total. During a similar period in the State of Kentucky cows were found to be nine per cent positive; throughout the nation they were found to be thirteen per cent positive. At the present time, milk which is infected by the organisms is supposed to be the main means of transmission of undulant fever. Since this is so, and since in Barren County we have only four per cent positive cows as compared with nine in the state and thirteen in the nation, we should have had a very low incidence of the disease. On the contrary we had a very high incidence. This may be explained by the intensive search which has been carried on for cases. The conclusion is that if an equally intensive search had been carried on throughout the state and nation a proportionately larger number of cases would have been found. This conclusion is borne out by all the research workers on the subject. As an illustration I speak of the work of McAlpin and Mickle in Connecticut. In their state laboratory they arranged to have agglutination tests for undulant fever carried on in conjunction with their Wassermann tests, and during the year 10.000 of these tests were made. Out of the 10.000. sixty-four were found to have agglutination tests in dilutions of at least 1 to 100. which is considered by all authorities diagnostic for the disease.

Questionnaires were sent out to these cases. and of those returned it was found that only three had previously been diagnosed as undulant fever. The three cases amounted to five per cent of the total positives. If this percentage holds throughout the general population, or at least that portion of it which has Wassermann tests made. and at the present time that is fairly representative. we would say that undulant fever is twenty times as prevalent as we realize. This condition may be remedied not by finding the cases and treating them individually. but rather by intensive public education through community effort and public health departments in the value and necessity of the use of Grade A pasteurized milk and destruction of all infected cows. Through the operation of these two simple procedures the disease may be wiped out.

Arthur T. McCormack, Louisville: I don't know when I have heard a paper that has impressed me as being more valuable than the contribution Dr. Beatty has made on undulant fever. It does not merely present the excellent and exact scientific work that has been done in

Barren County on this disease; it represents far more than that, because it shows the plan of cooperation between the laboratory, the practicing physician and the health department which is so valuable to all of them, each cooperating with the other in just exactly the proper proportion.

We have found pretty definitely, from our epidemiologic work in the State, that when we have undulant fever or when undulant fever is diagnosed in any family which is not supplied by a single cow or by its own small herd of cows, the case is not an isolation one. Whenever the milk supply is a public supply of any kind, the finding of one case, will, if we look closely enough, lead to the finding of about forty more cases. In any town in Kentucky at the present time, the studies made by the Department of Agriculture and our own Live Stock Sanitary Board on this subject, show that where raw milk is being consumed there are cases of undulant fever in the raw milk routes.

The diagnosis, as Dr. Beatty has so well shown in his paper, is very confusing. There is but one way to find it. Sometimes I wish that were true of every disease; I wish the exact scientific methods that have to be used in detecting undulant fever were required in all diagnosis; then we never would slip up on any of them, because the whole clinical picture would be taken into consideration by every physician. The differentiation would be carried through to its logical conclusion in every case, and these cases would not be occurring.

Take a city like Paducah, with thirty per cent raw milk supply and with cases of undulant fever being detected, from time to time, in the patrons of those raw milk routes. Every doctor in Paducah is charged with the responsibility of looking for undulant fever in all of the cases that present the classical symptoms that Dr. Beatty has so well described here. The cases should be all found, the laboratory work should be done accurately and the clinical work should be carried through definitely and completely. In that work a great many more cases would be detected. Undulant fever in a town like Paducah presents a very large problem. You have here a considerable number of dairies. Almost all of them are Grade A dairies. In fact, only Grade A milk can be sold in Paducah under the standard ordinance. Grade A milk should mean that every precaution has been taken in the production of that milk which can be taken; that the dairy is clean; that the cows are clean, healthy and have been tuberculin tested. But it has not so meant up to the present time, because the methods to that end have not been sufficiently generally adopted to warrant the inclusion of freedom from Bang's disease in the requirements of Grade A classification. Of course that will come, as it did slowly in tuberculosis, because, in Paducah or in any other town having a considerable raw milk supply and having the disease in its cattle, definitely shown by the survey made by the Department of Agriculture, and having cases of undulant fever in individuals, there is but one answer to the problem. It is a tremendously difficult and an enormously expensive proposition to free all the herds from Bang's disease. I tried it personally in Bowling Green. When I first began to inspect dairy cattle I found that I knew as little about it as I did about other things when I first began to practice, after I had learned all that a human mind can encompass while studying medicine and came out with so much confidence and such a vast amount of knowledge that I didn't exactly apply it with very great accuracy or value to anybody. When I began inspecting dairy herds I found that, while I knew something about the purity of milk and about the character of the milk supply after an analysis had been made of it, I knew so little about the practical side of dairying that the dairy man did not have any respect for my judgment. So, I bought me a farm and started a dairy and got along fairly well with it (I had an expert to run it) until my herd became infected with Bang's disease and contagious abortion and I began to lose my calves. I got the best advice then available, and it cost me a little over $4,500 to get rid of my cows, which were all sold as canners to be killed and sterilized by steaming until they were safe, and then canned. I had to buy another herd and start all over again. That all came about because one of my friends loaned me a very valuable bull that was infected with contagious abortion and infected all my cows.

That is the sort of thing that a dairy man needs to be taught, so that he will take necessary precautions to protect his herd economically. It is an economic proposition in which we have the interest that we have in all economy which affects public health and food supplies. But the thing with which we are directly concerned is that the milk supplies coming into cities shall be sufficiently pasteurized, properly pasteurized, so that they are safe as milk, the cheapest, best food to be consumed by our people.

In most places where this contest between the raw milk dealers and the pasteurizers, has arisen, they sell the raw milk a little cheaper than the pasteurized. It is unfortunate that this is true, but it nearly always is true. There are a large number of people who buy the cheaper milk; it looks just as white and tastes just about the same as any other milk, and they feel there is not enough difference to pay an extra cent or two cents a quart. That, I repeat, is unfortunate. The important thing we have to do is to educate our people that, at the present time and under present conditions of scientific knowledge, raw milk in city supplies contains sufficient elements of danger to render its use hazardous.

The French have gone much further than we have. They do not pasteurize milk at all because they consider it an expensive proposition; they just boil the milk and then add tomato juice, orange juice, or whatever other additional thing is necessary to supply the elements destroyed in the boiling of the milk. So far as the scientists, McCollum and others, in this country have been able to determine, the pasteurization of the milk destroys nothing, it lessens none of the contents of the milk that are of food value. In this country, because of our failure to get enough sunshine, we need orange juice frequently and we need tomato juice frequently in baby or childhood feeding anyhow. The important thing is that if we have pasteurized milk in our city supplies, as we all will have before very long, we will not have these cases of undulant fever.

It is very interesting to us in Louisville that almost every case of undulant fever there, has occurred in the wealthier suburban families that are able to keep a cow for their particularly precious child. These families have one cow each and that cow is taken vicariously to be bred and becomes infected from a more or less public bull. That is a perfectly simple proposition which has happened so frequently that we can warn our people that they can certainly secure a very much safer milk in the pasteurized supply than they can get from individual cows, because the individual cow is always under suspicion.

Experimental Studies on Headache.—Clark and his collaborators suggest that the headache following the injection of histamine is the result of a discrepancy between the behavior of the blood vessels inside the head as compared with those elsewhere. The rise of the systemic blood pressure after its fall indicates that at least a portion of the total vascular bed is constricting. However, the cerebral vessels remain dilated for a short time, and the cerebral blood flow is increased. In fact, with the rise in systemic blood pressure the cerebral arteries are still further dilated and bear the brunt of heightened intramural pressure with each cardiac systole. Moreover, the ability of the now hypotonic walls of the vessels to absorb pressure changes is much reduced and the pressure variations within the vessels are thus more directly transmitted to sensory end-organs in and about their walls and to the subarachnoid space. It is suggested that the combination of these two factors causes headache through the stretching effects on the walls and perivascular tissues.

MYOSITIS OSSIFICANS
REPORT OF A CASE*

Frank M. Stites, M. D.

Louisville.

Miss Emmetta Popp—Female, white, 11 years old.

Chief Complaint: 1. For several days preceding admission the patient experienced a dull, diffuse "aching" sensation about her neck, and particularly in the supraclavicular fossa on the right side.

2. In attempting to turn her head she found that her neck was stiff, and there was a limitation of motion, so that she would have to turn her entire body.

Other than this there was no other subjective complaints.

Past Illnesses: Two years ago the patient had a severe attack of tonsillitis following what was diagnosed as "a mild case of scarlet fever." During this attack her neck became very stiff and following subsidence of the acute infection the mother states she noticed that the child was holding her head in an abnormal manner.

Again this spring ('36) she had another severe attack of amygdalitis, again her neck was stiff and her throat was particularly sore and painful.

Two weeks ago the mother noticed that the child's eyes looked "heavy and dreamy" and that she was more lethargic and listless than usual.

One week ago (6-7-36) the mother noticed that the child was particularly somnolent, lethargic and listless, inclined not to talk and would answer questions by shaking her head and mumbling. On examination she (the mother) found that her neck seemed much more solid than those of the other children and after feeling her entire body and noting she felt particularly hard all over she called the doctor.

The child was admitted to Kentucky Baptist Hospital on Monday 6-15-36 in a wheel chair.

Nervous System: No pain, vertigo, syncope, tremors or numbness, circulatory system normal.

Respiratory System: Has had a slight persistent case of coryza for past ten days with a little nasal congestion. Remarkably enough, she has noticed no shortness of breath.

Previous History: Childhood Diseases—Has had measles, scarlatina parotitis, Varicella, frequent attacks of coryza and tonsillitis, and influenza. No diphtheria, scrofula or convulsions.

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*Read before the Kentucky State Medical Association at Paducah, October 5, 6, 7, 8, 1936.

Operations and Injuries—None.

Weight—About 73 lbs. at present—no loss.

Family History: Father and mother living and well.

Two sisters living and well (one sister was a fraternal twin).

Three brothers living and well.

No history of any familial disease or allergic manifestations.

Physical Examination: Pulse 120, Temperature 99, Respiration 19, Blood Pressure Systole 103, Diastole 58.

This patient is a well developed, rather well-nourished white female appearing about the stated age lying in bed apparently not acutely ill and suffering no pain. She is inclined not to talk or move about and answers questions by nodding her head.

Skin—Perspiration on brow and circumorally—elsewhere it is dry, warm, and rather roughened on the extremities.

There is a decided brownish pigmentation diffusely over the entire body, particularly where the skin has been exposed to the sun. Head; not remarkable. Ears; not remarkable except for slight mastoid tenderness and suboccipital tenderness. Eyes; pupils equal and regular and react to light and accommodation. Nystagmus is present, the palpebrae feel hard and indurated and there is a slight ironing out of the superior palpebral fold. However, there is no definite ptosis; strabismus, lacrimation, photophobia are not evident. Cornea and conjunctiva seem normal. Nose; somewhat congested, otherwise not remarkable. Mouth; teeth slightly dirty, very few cavities, tongue protrudes in mid-line and shows no tremor. Tonsils are enlarged and bulge slightly over the anterior and posterior pillars.

Neck: Muscles are hard, entire neck is stiff and there is definite limitation of movement. The sterno-cleido-mastoid and trapezius seem to be more involved than the others of the neck group. The submental group shows definite hardening.

Thorax: Normal size and shape. Respiration abdominal in character. There is a marked rigidity of the intercostals, but no bulgings or depressions. Breasts are just beginning to become hypertrophied and hyperplastic.

Lungs: Percussion note resonant throughout, no rales, belly type breathing 20 minute. Excursion of diaphragm restricted, no abnormal fremitus.

Heart: Apparently of normal size, no thrills or shocks or friction rubs, tachycardia, probably apprehensive, occasional premature systole, accentuation of first sound.

Arteries: Pulses equal, synchronous, 120 minute, blood pressure 102-58.

Abdomen: Slightly scaphoid, no tumors, belly type respiration, there is a marked rigidity all over the abdomen, spleen not palpable, but percussion area seemed rather large, liver not palpable, no tumors or tenderness.

Extremities: Palms and soles hard and dry. More deeply pigmented than rest of body. Keeps thighs and legs flexed. Rigidity and hardness seem less marked here than in the trunk.

Nervous System: Protopathic and stereognostic senses intact.

1. Corneal—present and active.
2. Biceps and triceps—not elicited.
3. Abdominal—not elicited.
4. K. Jerk—present and active.
5. BGO—negative.
6. Brudzinski and Kernig—negative.

Laboratory Work: Urine, pale, slightly cloudy, specific gravity 1012, negative for albumen, acetone. bile and indican.

Blood count showed R. B. C. 4,380,000, hemoglobin 77.9, color index .09, white blood corpuscles 13,500. Polys. 84, myeolocytes 0, young 0, staff 9, segmented 75, lymphs 12, eosinophiles, 1.

Blood chemistry showed creatinine 1.3 mgm. cholesterol 200 mgm, calcium 7.3 mgm.

Impression: Non suppurative myositis, Fibrosa or ossificans.

Bleeding and clotting time were normal, and on 6-19-36 tonsillectomy was performed. Tonsils were surmerged, markedly septic with marked plastic adhesions and contractions of the muscles. Microscopic examination showed dense areas of fibrosis with a few calcified areas. Convalescence was uneventful and patient returned to her home 6-25-36.

She was again seen on October 2nd and examination at this time revealed considerable increase in weight, marked softening of previously involved muscle structures. There is much less thickening of the skin over the involved areas and the improvement is rather marked.

Therapy has consisted entirely of highly nutritious and high vitamin diet with massage of the involved muscles and the daily administration of mixed vitamins.

SURGICAL THYROID*

M. D. Garred, M. D.

Ashland.

There are few diseases, if any, where the remedy is so specific and the results attained so gratifying as results from surgery in toxic conditions of the thyroid gland. Surgery offers a cure in about 97 per cent of cases with a mortality rate of less than 1 per cent, probably nearer 1-2 of one per cent in good hands, than one per cent. This record certainly compares most favorably with that of any other disease and especially so with surgical conditions, even interval appendectomy. The complications during and after operation are no greater than those following any other type of major surgery. When one considers the various conditions that may follow abdominal surgery such as intestinal obstruction, peritonitis, leekage from intestinal amastomosis, post-operative adhesions, fistulas and hernias, one cannot help but conclude that the occasional injury of a recurrent nerve or the removal of a parathyroid body is overstressed.

I do not wish to minimize the importance of very careful technique or show undue respect for the various structures in the neck, nor do I wish to relegate the treatment of Goiter to the inexperienced surgeon, but I do wish to remove some of the undue fright and awe held by the medical profession in general toward this condition, so that, an early diagnosis may be made and surgery instituted at the most opportune time and before irreparable damage has been done the patient.

Many physicians are of the opinion that when they make a diagnosis of toxic goiter they are passing a very severe sentence on their patient and that he or she is doomed for a very severe and dangerous operation with high mortality rate and dire complications. Thus the diagnosis is delayed until frank symptoms of toxemia have developed and although the patient will probably be saved, irreparable damage has been done.

In the early stages of the disease with proper preoperative and post-operative management there need be no mortality. With the great improvement in handling of these cases within the past few years, our greatest chance for further gain in results and decreased mortality rate lies in early diagnosis. It is not necessary that every physician have a basal metabolism machine, or other expensive equipment for the correct diagnosis of these cases, but it is important that careful histories be taken, accurate and frequent determination of the pulse and blood pressure be made. A high systolic blood pressure with a normal or subnormal diastolic pressure and a pulse rate of 90 or above should always make one thing of toxic thyroid. It is very rare in a young individual to find a high pulse pressure with a diastolic reading under 100 and not find a toxic thyroid. In a case where there is doubt and a Basal Metabolism test cannot be had the patient should be put on Lugol's solution, and should the condition be due to toxic goiter there will be a drop in blood and pulse pressures, a lowering of pulse rate and a general increase in feeling of well being, decrease in nervousness and other symptoms that were present at the time treatment was begun. These cases if proven to be hyperthyroid should then be recommended to have an immediate sub-total thyroidectomy before the beneficial effects of Lugol's wear off and the patient then becomes more toxic than before. I consider the improvement under Lugol's in cases that have not had iodine much more significant than basal metabolism, and this becomes more important in cases that have a variable basal reading.

There are other conditions which may cause an increase in the basal rate, but there are none other than hyperthyroidism that will show an abatement of symptoms by the use of Lugol's solution. Elevation of basal metabolism may occur in the various forms of leukemia which are not difficult to recognize. some conditions in which great difficulties may arise by the use of basal metabolism alone are the various neuroses, essential hypertension, and Parkinson's Syndrome. Lugol's solution will prove very beneficial in ruling out these conditions.

It is to be remembered that hyperthyroidism is a disease of slow onset, with acute exacerbations usually throughout the course of the disease. That exopthalmic goiter or diffuse hyperthyroidism is the toxic goiter of the younger individual and that adenomatous goiter is the condition of the more mature individual. All toxic goiters are surgical and all adenomatous goiters are surgical regardless, whether or not toxemia is present at the time of the examination. The onset in adenomatous goiter is much lower than in the diffuse type and by the time a well established case of toxic adenoma is established irreparable damage has been done to the circulatory and nervous system. Many of these cases are treated for years for chronic heart disease with devastating results before diagnosis is made. Potassium iodide has for many years been considered a useful drug in hypertension, and it is my opinion that it made its reputation in cases that had had a long standing, mild, hyperthyroid condition undiagnosed.

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*Read before the Kentucky State Medical Association at Paducah, October 5, 6, 7, 8, 1936.

In 1932 I operated a case with toxic adenoma that had a basal rate of plus 45. This man was 68 years old and had been treated for chronic heart disease for 10 years. At the time he came under my observation the diagnosis was Chronic Bright's disease. The man really had a toxic adenomatous goiter with Cardiac failure, ascites and extensive swelling of the feet and legs, albumin and casts in the urine. After careful preparation by Lugol's, rest in bed, high caloric diet, plenty of fluids, digitalis and sedatives, the man was operated. He made a complete recovery and is now engaged in the lumber business. Some few months ago he told me up to the time he was operated he had not been able to drive his car for 6 years. This case is a good example for the need of more careful study of the thyroid gland in any heart disease, also, it shows how great will be the amount of recovery following operation in a far advanced and seemingly hopeless case.

Any case of hyperthyroidism should have the benefit of surgery regardless of how far advanced. The longer the disease has been in evidence, the older the patient and the greater the toxemia, the longer the period of preparation should be and the more frequent the use of stage operations.

There is no greater surgical emergency than a toxic goiter and all cases should be treated as such, the older the patient, the greater the emergency except in pregnancy. All cases of hyperthyroidism with pregnancy should be operated provided they can be prepared and operated before eight and one half months, after eight and one half months they should have polar ligations provided it is thought the toxemia cannot be controlled by large doses of Lugol's solution. Patients not operated on during pregnancy but put on Lugol's should be operated as soon after delivery as possible. I do not consider the chances of miscarriage from operation nearly so great as those from toxemia, and certainly many deaths from thyroid crisis during or soon after delivery will be prevented. I have never had a case to miscarry following operation.

I recently had a case that went into a thyroid crisis following the delivery of twin boys. I am sure that she was saved by the prompt action of her obstetrician who had not seen her before she went into labor. I was called to see this patient the next morning, she was very restless, dyspneic and cyanotic, had not slept since the delivery. Her eyes were bulging from their sockets until they seemed to stand out on stalks, the pulse was so fast it could not be counted. She was given Lugol's solution submammary and by rectum, large doses of sodium amytal, morphine, and digitalis. Large quantities of fluid were also administered.

The patient was given preparatory treatment for three weeks. She was then operated and made an uneventful recovery and is now well. This patient had had a goiter since she was sixteen years old and had gone through five previous pregnancies with it. She gave a history of gradually increasing toxemia and especially so with each pregnancy. She was never advised to have a thyroidectomy until the thyroid crisis developed, yet she had had prenatal care with all pregnancies. A case of this type not only is endangering her own life but that of her child and permanent heart damage is certain to develop even though the patient may be saved, as was done in this case.

While discussing this case I would like to stress the importance of Amytal in any case of hyperthyroidism. There is no doubt that amytal causes a marked temporary fall in metabolism and should be used freely in any toxic case and especially, preoperatively. The dosage should be sufficient to make the patient drowsy. By the use of amytal in large doses preoperatively many two stage operations will be averted.

The preoperative period should not be too short, and the economic side should not be allowed to enter the picture. An attempt to save the patient a few days time and a little expense may end in eternity. Usually this period should not be under ten days nor over three weeks. The more toxic the case and the more heart damage the longer the preoperative period should be. At the end of the preoperative period should the patient not be in shape to undergo a subtotal thyroidectomy then a stage operation should be considered.

Here again the economic side must not be allowed to enter the picture nor the fear of criticism from the family cause one to attempt to do a complete operation when the patient is not able to stand it. It is always safer to err on the side of conservatism in thyroid surgery and by so doing save the patient even though two or three operations must be done than to do a complete operation and have it end disastrously. When ever there is any doubt about the ability of the patient to stand a formidable procedure, the less formidable should be chosen. I am not advocating the too frequent performing stage operations but I am advocating their avoidance and avoidance of permanent damage to the patient by early diagnosis and careful preoperative preparation over not too short a period of time.

Thyrotoxicosis in the presence of other surgery should always receive attention first, regardless of the other emergency present. Even in emergency appendicitis, intestinal obstruction or other surgical emergencies should a thyrotoxicosis be present, steps to combat the toxemia must be taken before the operation is started. Lugol's should be given by mouth, submammary, per rectum, or sodium iodide intravenously and this treatment continued until the emergency is over and then the goiter dealt with surgically.

It is important also to remember that toxic conditions of the thyroid gland may cause symptoms which greatly resemble other conditions and grave errors may be made by not carefully weighing all the evidence present. An example of a case of this type is a patient who came under my care with the diagnosis of acute appendicitis. This patient had a typical history of cramping around the navel with nausea and vomiting, however, he had the usual symptoms and physical findings of a toxic goiter together with a normal blood count and general tenderness over the abdomen in place of a localized condition. The patient's condition rapidly improved under treatment and following operation. Since the operation he has not had another attack of pain in his abdomen.

In conclusion I wish to call your attention to the following factors which are to me the most important to keep in mind to reduce the mortality in surgery of the thyroid gland:

1. Early diagnosis and operation.
2. Joint supervision of the patient by surgeon and internist.
3. Proper preoperative management, preferably, this should be rest in bed most of the time, administration of Lugol's solution, digitalis in cases that present a heart lesion. High caloric, low protein diet, sedatives and especially amytal on the morning of the operation.
4. Selection of the best time for the operation which is during a remission.
5. Adoption of more conservative procedure in sick patients, such as long standing toxicity, marked emaciation and in cases that have been on iodine for long intervals.
6. Operation must not be too long. Include portion of gland with inferior thyroid artery, careful hemostasis, drainage.
7. Post-operative: Lugol's solution by mouth, hypodermoclysis, per rectum, or sodium iodide intravenously if needed.
8. Do not hesitate to reopen wound in case of hemorrhage. Patient should be under general anesthesia.
9. Be constantly on guard for early symptoms of thyroid crisis.
10. Watch for early symptoms of tetany and at the slightest sign give calcium intravenously and parathyroid extract hypodermatically.

ANAL FISSURE AND IRRITABLE ANAL ULCER*

M. W. Haws, M. D.

Fulton.

When asked by the chairman of our program committee to select a subject for my paper, I was rather hesitant in selecting this subject which seems to be rather insignificant to bring before you. But in thinking back on the relief I have been able to give my patients, I thought it might be of interest to some of you, to present my experiences in treating this very painful condition, and it is truly painful, for I don't believe there is a condition in the human body that gives as much pain according to its size. Many of my patients come to me very depressed mentally wth a self-dagnoss of cancer, hemorrhoids, and a lot of them have given up hopes of ever recovering. If none of you ever had one of these fissures you cannot appreciate the excruciating pain this insignificant lesion can give you.

Etiology: Fissures probably result from trauma usually in the form of a large hard bowel movement which tears the mucosae. In examining practically all fissures one will find an enlarged infected morgagni crypt at the internal end of the ulcer. Buie, proctologist at the Mayo Clinic thinks that the infection of a crypt of Morgagni precedes the trauma and that trauma is merely the exciting cause.

Symptoms: Pain is usually the presenting symptom. The pain is located in the rectum, may be periodical or almost constant, but is always made worse by anything resembling a formed bowel movement. If a patient comes in complaining of pain in the rectal area, made worse by bowel actions, has no external swellings, which could be hemorrhoids or abscess, one can be very suspicious of a fissure.

Diagnosis: The diagnosis is usually easily made. A patient comes in complaining of pain in the rectal area. On inspection of this area no protruding hemorrhoids can be seen and no abscess. If the rectal sphincters are not too tight it is usually easy to separate the anus enough to see the ulcer. Usually there is a skin tab or so-called sentinel pile at the lower margin of the ulcer, and an enlarged infected crypt at the upper margin. The ulcers are usually single, in fact, if more than one ulcer is present syphilis should be suspected. The ulcer might be located anywhere around the anal circumference but is usually the posterior quadrant. In fact, in my small experience I have only seen one fissure other places and that was in the anterior quadrant. There is an anatomical reason for this. As you remember, we said the etiology of fissure was infection plus trauma. Infection may occur anywhere around the circumference of the anal canal but trauma is more likely to occur at the posterior part. The levator ani muscle furnishes a strong protection for the lateral walls of the rectum leaving two weak places at the anterior and posterior commissures. The reason that more fissures occur posteriorly than anteriorly is because of the angulation of the posterior rectal wall with the canal of the anus at its posterior internal margin, while the anterior wall continues almost in a straight line with the anterior wall of the anal canal. Because of this anatomical fact there is more pressure exerted on the posterior wall.

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*Read before the Kentucky State Medical Association at Paducah, October 5, 6, 7, 8, 1936.

Treatment: My reason for writing this paper is to present to you my successes and failures in treating this condition. For the past four years I have been following the method I am about to outline to you, and in that time I have treated 33 cases, all of which have been entirely office treatment, none of them having been hospitalized. In all patients of this grup symptoms had been present at least three weeks, practically all having used the customary pile salves and ointments, and all I believe having given nature a good chance to heal the ulcer. The longest duration of symptoms being about thirteen months.

The following is my routine in treating these cases of rectal fissure. With my office assistant separating the buttock a local anesthetic is given in the rectal area with one per cent novocaine. This anesthetic is given in the way described in all standard textbooks, that is, a small 27 gauge needle is inserted in four places around the circumference of the anal opening, then a longer needle is inserted in each of these four places making a complete circle around the anal canal. Following this, the anal fissure is drawn into view by retraction of the anal opening and with a 27 gauge, ¾ inch needle about ½ to 1 c.c. of Quinine Urea Hydrochloride 5 per cent is injected directly under the ulcer. In making the injection extreme care should be taken not to inject the medicine too deep. In two out of my first cases, I injected too deep both having a painful induration, one of which went on to abscess formation. Following the injection, I take a small currette and thoroughly curet the base of the ulcer. Following this I gently dilate the rectum so that I can easily insert two of my fingers. With the local anesthesia and the quinine urea under the ulcer, and by being very gentle I have been able to do this without very much complaint. In fact, most patients do not complain at all but some of the more nervous and apprehensive patients complain not so much of pain as the uncomfortable feeling of having anything inserted into the rectum.

With this method of treatment I have been able to secure a cure in 28 out of 33 cases. The five failing to secure relief by this method of treatment were operated in my office under local anesthesia in the following way. In addition to the subcutaneous infiltration as mentioned in the first part of the paper the needle was inserted into the ischio-rectal space to the depth of about one inch thus giving us a more complete anesthesia.

After anesthesia a rectangular piece of skin and anal mucosa is excised. This incision is started about 3 cm from the anal margin so as to include the sentinel pile and rectal varicosities. The incision is extended up on each side of the anal fissure, being sure to be ½ to 1 cm on the outside of the fissure. This flap is then dissected upward beyond the upper limits of the fissure, being sure that all tissue down to the muscle is included in the flap.

A clamp is applied just above the ulcer margin to the mucosa and the entire flap excised. Then a continuous suture is run over the clamp and the mucosa is sutured to the underlying muscle. If there remain any bleeding points further bleeders are tied.

After-treatment consists of keeping the parts well cleansed, applying some antiseptic such as metaphen or merthiolate and the administration of ounces one of mineral oil night and morning for softening the bowels.

In conclusion let me summarize the results of treatment as follows:

Cured in one treatment, 23 cases.

Required two treatments one week apart, three cases.

Required three treatments, one case.

Required four treatments, one case.

Required operation, five cases.

All cured except one case.

DISCUSSION

D. L. Jones, Fulton: I have not made routine the treatment that has been outlined. A great per cent of early cases of fissure of the anus will heal in a week or ten days with the following treatment: mineral oil by mouth until it leaks from the rectum, which has its healing effect and avoids the trauma to the anus during defecation. With a small Brinkerhoff spe-

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culum in the anus, touch the ulcer with a ten per cent nitrate of silver solution, and before removing the speculum apply through the same about one drachm of butesin picrate ointment to relieve the pain from the treatment. Apply five or ten per cent scarlet red ointment once a day, or the following:

R. Balsum Peru dr. i
Ichthyol dr. ii
Castor oil, qs. oz. i M.
Sig. Apply with cotton applicator t. i. d.

If the fissure fails to heal it may be excised as given by the essayist. Another operative method is to do a partial spincterectomy of the external sphincter muscle by making with a small knife, posterior to the anus and muscle, a puncture, and with the index finger in the anus as a guide, cut about one-half of the external sphincter muscle fibers, but not cutting into the anus. This will relieve the spasm of the muscle and pain, and local treatment, with rest of the muscle, will relieve the condition.

COUNTY SOCIETY REPORTS

Nelson: Our County Society has lost one of its oldest and most distinguished physicians in the passing on of Dr. J. J. Wakefield.

On March 7 he was struck by an automobile and suffered such severe injuries that he was taken to a Louisville hospital and on March 23 reached the end of his long journey. He observed his sixty first anniversary as a physician in Bloomfield on March 1, and was credited with being the attending physician at more births than any other doctor in Nelson County.

He had always been an active member of his county and state society, an ardent advocate of public health and although 84 years old, he was in active practice, quick to adopt all the new accepted remedies, he never missed a county society meeting and always took an interesting part in its deliberations. Nelson County has lost one of its most valued members.

R. H. GREENWELL, Secretary.

Shelby: The Shelby County Medical Society was entertained at its regular monthly meeting on February 18th by Dr. F. L. Lapsley with a dinner at the Colonial Inn. The officers for the new year are: Drs. A. P. Dowden, Eminence, President; B. B. Sledd, Middletown, Vice President; A. D. Doak, Shelbyville, Secretary and Treasurer.

Members present were Drs. A. P. Dowden, B. B. Sledd, A. B. Doak, Hugh Richardson, Owen Carroll, Wm. Wyman, J. D. Leslie, Maurice Bell, Eminence; W. E. Morris, T. J. McMurry, J. F. Jessee, Graham Lawrence, W. T. Buckner, W. H. Nash, A. C. Weakley, W. P. Hughes, T. E. Bland, H. D. Glick, L. A. Turner, C. C. Risk,

W. H. Hays, F. L. Lapsley. Dr. F. L. Lapsley read a paper and led the discussion on "Obstetric Experiences."

The society meets regularly the third Thursday evening each month, being entertained with a dinner and program furnished by each Doctor as he comes in alphabetical order.

We know of no other society in the State that has this practice and form of entertainment—and 100 per cent membership.

A. D. DOAK, Secretary.

Pulaski: Dr. John Baston Acton passed away suddenly at his home on February 26th, 1937. Though Dr. Acton had not been well for some time, his sudden death came as a surprise and shock to the medical profession and a host of friends in this and the adjoining counties.

In the passing of Dr. Acton, the medical profession of Pulaski County lost another of its oldest colleagues. He had spent twenty-nine years in active practice in Kentucky.

Dr. Acton was congenial and kind in his personal and professional life, and made many friends. He was never too busy to render services to the needy.

BE IT RESOLVED, by the Pulaski County Medical Society, that we pay this last tribute of respect to his memory and services and that we extend our deepest sympathy to his wife and children.

BE IT FURTHER RESOLVED that a copy of these resolutions be spread upon the minutes of the Society, a copy be sent to Mrs. Acton, and a copy be sent to the Kentucky Medical Journal for publication.

Passed unanimously by the Pulaski County Medical Society at its meeting, April 8th, 1937.

M. C. SPRADLIN, Secretary.

Letcher: The Letcher County Medical Society met in the Presbyterian Church in Whitesburg, Tuesday night at 7:30 P. M. The following doctors were present:

J. E. Stanfill, Dunham; Can M. Bentley, Neon; B. F. Wright, Seco; T. M. Radcliffe, Kona; Owen Pigman, Farraday; B. C. Bach, Whitesburg; J. E. Crawford, Whitesburg; T. R. Collier, Whitesburg; R. Dow Collins, Whitesburg.

Dr. Stanfill presided; the usual routine business affairs were transacted and then the following program was given:

"Syphilis A Community Health Problem," R. Dow Collins. The following doctors discussed the above topic. Drs. B. F. Wright, Duncan, Pigman, Radcliffe, Stanfill, and Bach. Following the program the members proceeded to the dining compartment of the church where delicious refreshments were in waiting to be served by Miss Grace Wells, Public Health Nurse and Mrs. R. Dow Collins. The physicians seemed well pleased at this little surprise of good eats. No other business—adjournment.

R. DOW COLLINS, Secretary.

Sixth-Seventh Dictricts: For the first time the Sixth and Seventh Councilor Districts will hold a joint meeting at Danville, Tuesday, May 18th at 4 P. M. at the Danville Country Club. This will give the physicians plenty of time to do their morning work and enjoy a splendid program that has been arranged. The physicians all over the state are invited to attend this meeting, and if you decide to stay for dinner, please notify the Secretary. The following program has been arranged:

I. Presentation of Two Cases.
    1. Laryngospasm.
    2. Functional Deficiency of Posterior Pituitary, Geo. M. McClure, M. D., Danville.

II. Acute Abdomen in Childhood, Lee Palmer, M. D., Louisville.

III. Advantageous Neurotic Reactions, W. E. Gardner, M. D., Louisville.

Dinner, Danville Country Club, 6:30 P.M.

I. Chronic Asthma: Its Evolution and Management, Karl D. Figley, M. D., Toledo, Ohio.

II. Acute Abdomen in Childhood, Lee Palmer, J. B. Lukins, M. D., Louisville.

G. M. McCLURE, Secretary.

Fifth District: The Fifth Councilor District will hold its annual spring meeting at Carrollton, Thursday, May 27th at 10 A. M. Dr. Allen Donaldson has been appointed Chairman of the Committee on Arrangements. The program will be as follows:

Post-operative Treatment of Appendicitis, Ellis Allen, Jr., Louisville.

Hemorrhoids, Samuel Brown, Ghent.

Lunch

Indefinite Symptoms of Abdominal Conditions, J. D. Northcutt, Covington.

Tuberculosis and the Family Doctor, O. O. Miller, Louisville.

A cordial invitation is hereby extended to every doctor in the Association to attend this meeting.

OWEN CARROLL, Secretary.
J. B. LUKINS, Councilor.

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MAY 10-14, 1937

	Monday, May 10	*Tuesday, May* 11	*Wednesday, May* 12	*Thursday, May* 13	*Friday, May* 14
8:00 *a. m.* *to* 11:00 *a. m.*	Registration 8-9 a. m. Clinics on 1. Pediatrics 2. Medicine 3. Obstetrics 4. Gastro-Intestinal Diseases 5. Physical Therapeutics	Clinics on 1. Cardiovascular renal disease 2. Surgery 3. Gynecology 4. Medicine 5. Otolaryngology	Clinics on 1. Orthopedics 2. Dermatology 3. Roentgenology 4. Surgery 5. Obstetrics	Clinics on 1. Urology 2. Pediatrics 3. Otolaryngology 4. Medicine 5. Neurology and Psychiatry	Clinics on 1. Cardiovascular renal diseases 2. Surgery 3. Dermatology 4. Gastro-Intestinal diseases 5. Ophthalmology
11:00 *a. m.* *to* 12:00 *noon*	Nephritis in Children" C. A. ALDERICK, M. D.	Therapeutic Aphorisms	Modern Treatment of Pneumonia	Medical Jurisprudence	Urologic and Orthopedic Aphorisms
1:30 *to* 2:30 *p. m.*	"Rheumatic Problems" S. GIBSON, M. D.	Panel discussion on Medicine	Panel discussion on Surgery	Panel discussion on Obstetrics	Panel discussion on Therapeutics
2:30 *to* 3:30 *p. m.*	"The Tonsil Problem" A. D. KAISER, M. D.	Practical Demonstration on Intravenous Therapy	Practical Demonstration on Aseptic Technic and Splints	Practical Demonstration on Obstetrics	Practical Demonstration on Dermatology and Urethral Instrumentation
3:30 *to* 5:00 *p. m.*	CLINICAL PATHOLOGICAL CONFERENCES, WITH THE SPEAKER OF THE EVENING TAKING AN ACTIVE PART				Voluntary Examination Questions and Answers
8:00 *p. m.*	Guest Speaker SAMUEL A. LEVINE, M. D., Boston Assistant Professor of Medicine, Harvard University Medical School Cardiology	Guest Speaker VERNON C. DAVID, M. D., Chicago Clinical Professor of Surgery, Rush Medical College Surgery	Guest Speakers NICHOLAS J. EASTMAN, M. D., Baltimore Professor of Obstetrics Johns Hopkins University School of Medicine Obstetrics FRANK C. MANN, M. D., Rochester, Minn. Professor of Pathology, Surgery and Experimental Physiology, University of Minnesota, Graduate School of Medicine Physiology	Guest Speaker HAROLD N. COLE, M. D., Cleveland Associate Clinical Professor of Dermatology and Syphilogy, Western Reserve University School of Medicine Syphilis	PUBLIC MEETING Guest Speaker PROF. MAUDE SLYE Associate Professor of Pathology, University of Chicago Cancer Another speaker to be announced later.

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1937

KENTUCKY MEDICAL JOURNAL

Published Monthly by the Kentucky State Medical Association Under the Supervision of the Council

VOL. 35. No. 6 BOWLING GREEN, KY. JUNE, 1937

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Editorial and Business Offices, 519 Tenth Street. Subscription Price, $5.00; Single Copy, 50 cents.
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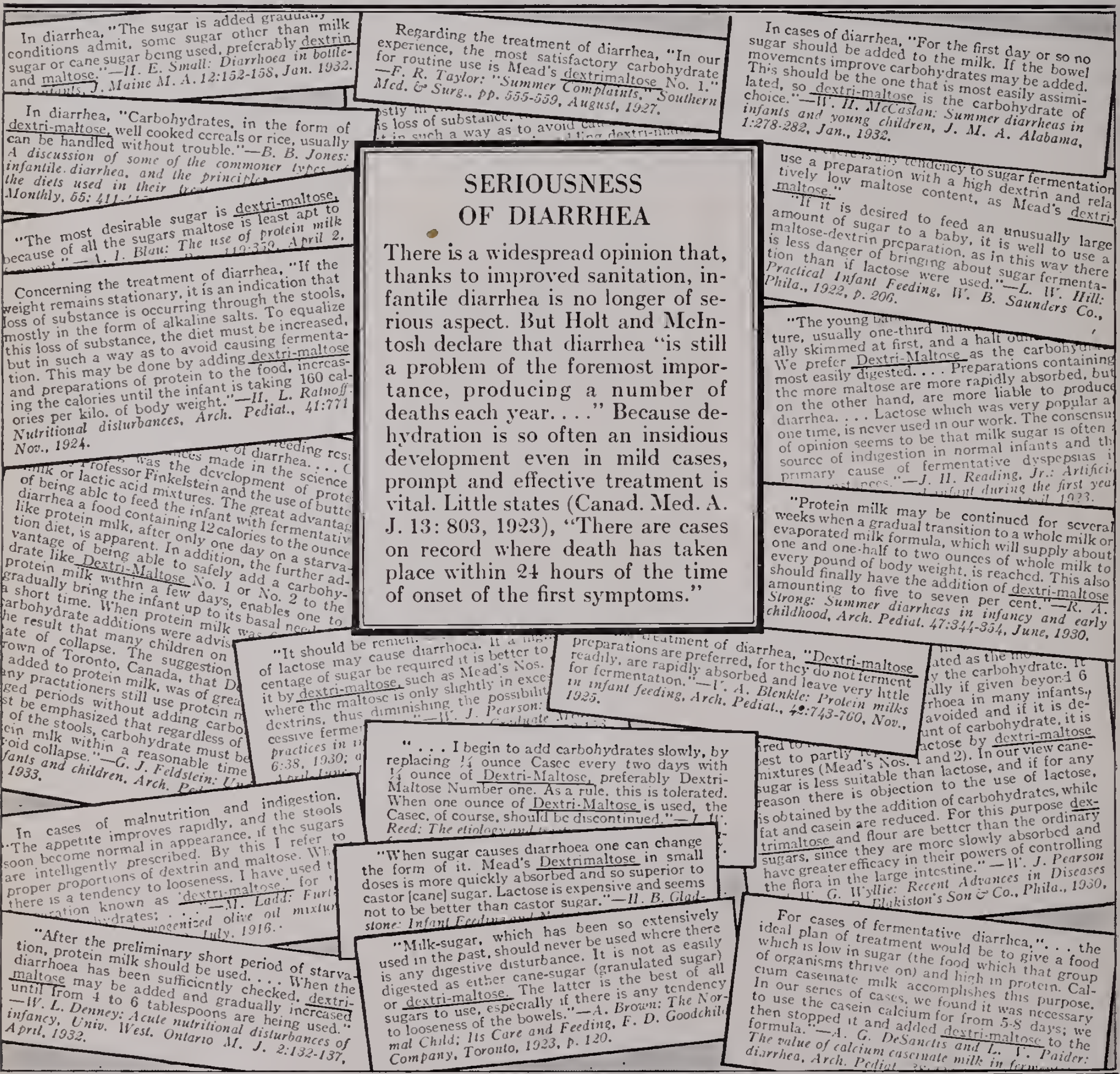

In diarrhea, "The sugar is added gradua
conditions admit, some sugar other than milk
sugar or cane sugar being used, preferably dextrin
and maltose."—*H. E. Small: Diarrhoea in bottle-*
fants, J. Maine M. A. 12:152-158, Jan. 1932.

In diarrhea, "Carbohydrates, in the form of
dextri-maltose, well cooked cereals or rice, usually
can be handled without trouble."—*B. B. Jones:*
A discussion of some of the commoner types
infantile diarrhea, and the principle
the diets used in their
Monthly, 65: 411-

"The most desirable sugar is dextri-maltose,
because of all the sugars maltose is least apt to
—*A. J. Blau: The use of protein milk*
119:359, April 2,

Concerning the treatment of diarrhea, "If the
weight remains stationary, it is an indication that
loss of substance is occurring through the stools,
mostly in the form of alkaline salts. To equalize
this loss of substance, the diet must be increased,
but in such a way as to avoid causing fermenta-
tion. This may be done by adding dextri-maltose
and preparations of protein to the food, increas-
ing the calories until the infant is taking 160 cal-
ories per kilo. of body weight."—*H. L. Ratnoff:*
Nutritional disturbances, Arch. Pedial., 41:771
Nov., 1924.

of diarrhea. . . .
was the development of prote
milk or lactic acid mixtures. The great advantag
of being able to feed the infant with fermentativ
diarrhea a food containing 12 calories to the ounce
like protein milk, after only one day on a starva-
tion diet, is apparent. In addition, the further ad-
vantage of being able to safely add a carbohy-
drate like Dextri-Maltose No. 1 or No. 2 to the
protein milk within a few days, enables one to
gradually bring the infant up to its basal need
a short time. When protein milk was
carbohydrate additions were advis
he result that many children on
ate of collapse. The suggestion
rown of Toronto, Canada, that D
added to protein milk, was of grea
ny practitioners still use protein m
ged periods without adding carbo
st be emphasized that regardless of
of the stools, carbohydrate must be
ein milk within a reasonable time
oid collapse."—*G. J. Feldstein:*
fants and children, Arch.
1933.

In cases of malnutrition and indigestion.
"The appetite improves rapidly, and the stools
soon become normal in appearance, if the sugars
are intelligently prescribed. By this I refer to
proper proportions of dextrin and maltose.
there is a tendency to looseness. I have used
known as 'dextri-maltose,' for
—*M. Ladd: Furt*
hydrates; . . . olive oil mixtu
July, 1916.

"After the preliminary short period of starva-
tion, protein milk should be used. . . . When the
diarrhoea has been sufficiently checked, dextri-
maltose may be added and gradually increased
until from 4 to 6 tablespoons are being used."
—*W. L. Denney: Acute nutritional disturbances of*
infancy, Univ. West. Ontario M. J. 2:132-137,
April, 1932.

Regarding the treatment of diarrhea, "In our experience, the most satisfactory carbohydrate for routine use is Mead's dextrimaltose No. 1." —*F. R. Taylor: "Summer Complaints," Southern Med. & Surg., pp. 555-559, August, 1927.*

"It should be remem
of lactose may cause diarrhoea. If a hig
centage of sugar be required it is better to
it by dextri-maltose, such as Mead's Nos.
where the maltose is only slightly in exce
dextrins, thus diminishing the possibilit
cessive fermen —*W. J. Pearson:*
practices in
6:38, 1930;

treatment of diarrhea, "Dextri-maltose
preparations are preferred, for they do not ferment
readily, are rapidly absorbed and leave very little
for fermentation."—*V. A. Blenkle: Protein milks*
in infant feeding, Arch. Pedial., 42:743-760, Nov.,
1925.

". . . I begin to add carbohydrates slowly, by replacing ¼ ounce Casec every two days with ¼ ounce of Dextri-Maltose, preferably Dextri-Maltose Number one. As a rule, this is tolerated. When one ounce of Dextri-Maltose is used, the Casec, of course, should be discontinued."—*J. W. Reed: The etiology and*

"When sugar causes diarrhoea one can change
the form of it. Mead's Dextrimaltose in small
doses is more quickly absorbed and so superior to
castor [cane] sugar. Lactose is expensive and seems
not to be better than castor sugar."—*H. B. Glad-*
stone: Infant Feeding and

"Milk-sugar, which has been so extensively used in the past, should never be used where there is any digestive disturbance. It is not as easily digested as either cane-sugar (granulated sugar) or dextri-maltose. The latter is the best of all sugars to use, especially if there is any tendency to looseness of the bowels."—*A. Brown: The Normal Child: Its Care and Feeding, F. D. Goodchild Company, Toronto, 1923, p. 120.*

In cases of diarrhea, "For the first day or so no sugar should be added to the milk. If the bowel movements improve carbohydrates may be added. This should be the one that is most easily assimilated, so dextri-maltose is the carbohydrate of choice."—*W. H. McCaslan: Summer diarrheas in infants and young children, J. M. A. Alabama, 1:278-282, Jan., 1932.*

use a preparation with a high dextrin and rela
tively low maltose content, as Mead's dextri-
maltose."
"If it is desired to feed an unusually large
amount of sugar to a baby, it is well to use a
maltose-dextrin preparation, as in this way there
is less danger of bringing about sugar fermenta-
tion than if lactose were used."—*L. W. Hill:*
Practical Infant Feeding, W. B. Saunders Co.,
Phila., 1922, p. 206.

"The young
ture, usually one-third
ally skimmed at first, and a half
We prefer Dextri-Maltose as the carbohy
most easily digested. . . . Preparations containing
the more maltose are more rapidly absorbed, but
on the other hand, are more liable to produce
diarrhea. . . . Lactose which was very popular a
one time, is never used in our work. The consensu
of opinion seems to be that milk sugar is often
source of indigestion in normal infants and th
primary cause of fermentative dyspepsias
—*J. H. Reading, Jr.: Artifici*
infant during the first yea
1933.

"Protein milk may be continued for several
weeks when a gradual transition to a whole milk or
evaporated milk formula, which will supply about
one and one-half to two ounces of whole milk to
every pound of body weight, is reached. This also
should finally have the addition of dextri-maltose
amounting to five to seven per cent."—*R. A.*
Strong: Summer diarrheas in infancy and early
childhood, Arch. Pedial. 47:344-354, June, 1930.

ated as the
y the carbohydrate.
ally if given beyond 6
rhoea in many infants,
avoided and if it is de-
unt of carbohydrate, it is
actose by dextri-maltose
est to partly and 2). In our view cane-
mixtures (Mead's Nos. sugar is less suitable than lactose, and if for any
reason there is objection to the use of lactose,
is obtained by the addition of carbohydrates, while
fat and casein are reduced. For this purpose dex-
trimaltose and flour are better than the ordinary
sugars, since they are more slowly absorbed and
have greater efficacy in their powers of controlling
the flora in the large intestine."—*W. J. Pearson*
W. G. Wyllie: Recent Advances in Diseases
Blakiston's Son & Co., Phila., 1930,

For cases of fermentative diarrhea, ". . . the
ideal plan of treatment would be to give a food
which is low in sugar (the food which that group
of organisms thrive on) and high in protein. Cal-
cium caseinate milk accomplishes this purpose.
In our series of cases, we found it was necessary
to use the casein calcium for from 5-8 days; we
then stopped it and added dextri-maltose to the
formula."—*A. G. DeSanctis and L. V. Paider:*
The value of calcium caseinate milk in ferm
diarrhea, Arch. Pedial.

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VITAMIN REQUIREMENTS OF MAN

IV. VITAMIN B_1

● The multiple nature of vitamin B has been definitely established by intensive research within the past decade. Considerable quantitative information is now available concerning the requirements of certain species of animals for the various factors contained in the vitamin B complex. At the present time, however, the anti-neuritic vitamin B_1 is the only one of these factors for which the minimum requirement for man can be postulated.

Beriberi-preventing diets of Chinese coolies and natives of Java have been estimated to contain 200 International units of vitamin B_1 (1). Practical use is made of knowledge such as this in the Philippines, where the Bureau of Science, in a successful effort to combat beriberi, dispenses tikitiki (vitamin B_1 concentrate from rice polishings) containing approximately 200 International units of vitamin B_1 per daily dose.

It is generally agreed that the absolute requirement for this factor may be variable, depending upon such factors as size and caloric intake of the individual. However, equations have been derived which take into consideration some of these variables and are useful in estimating the adult vitamin B_1 requirement (2).

Application of these equations indicate that approximately 225 International units of vitamin B_1 per day are required for the average American adult. The average daily infant requirement has been estimated to be 50 International units, increasing to 200 units at the time of adolescence (1). The League of Nations Technical Commission recommends a daily intake of over 150 International units for pregnant and lactating women (3).

While it may be possible to estimate the daily intake of vitamin B_1 which will prevent clinical beriberi, it is not yet possible to state the minimum amount of the vitamin which, when imposed on an otherwise adequate diet, will promote optimum nutrition. There is increasing belief that some of the vague disorders, noted clinically, may be in reality manifestations of suboptimal vitamin B_1 intake (4).

Today, we have the new concept of nutrition which recommends the intelligent inclusion in the varied dietary regime of foods with known nutritive values—thereby insuring that the individual is not dwelling in "the twilight zone of nutrition". Thus has arisen the concept of "protective foods".

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(1) 1934-35. Am. Pub. Health Assn. Year Book. Page 70

(2) The Vitamin B Requirements of Man. G. R. Cowgill Yale University Press. New Haven. 1935

(3) 1936. Nutr. Abst. and Rev. 5, 855

(4) a. 1936. J. Am. Med. Assn. 106, 261
b. 1935. Ibid. 105, 1580

(5) a. 1932. Ind. Eng. Chem. 24, 457
b. 1932. J. Nutrition 5, 307
c. 1934. Ibid. 8, 449
d. 1935. Ibid. 11, 383

(6) 1934. U.S. Pub. Health Rpts. 49, 754

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CALENDAR OF COUNTY SOCIETY MEETINGS

COUNTY	SECRETARY	RESIDENCE	DATE
Adair	N. A. Mercer	Columbia	June 2
Allen	A. O. Miller	Petroleum	June 23
Anderson	J. B. Lyen	Lawrenceburg	June 7
Ballard	F. H. Russell	Wickliffe	June 8
Barren	Paul S. York	Glasgow	June 16
Bath	H. S. Gilmore	Owingsville	June 14
Bell	R. F. Porter	Middlesboro	June 11
Boone	R. E. Ryle	Walton	June 16
Bourbon	S. M. Rickman	Paris	June 17
Boyd	C. B. Daniels	Ashland	June 1
Boyle	Geo. M. McClure	Danville	June 15
Bracken-Pendleton	W. A. McKenny	Falmouth	June 7
Breathitt	Frank K. Sewell	Jackson	June 15
Breckinridge	J. E. Kincheloe	Hardinsburg	June 10
Bullitt	S. H. Ridgeway	Shepherdsville	
Butler	G. E. Embry	Morgantown	June 3
Caldwell	W. L. Cash	Princeton	June 1
Calloway	Hugh L. Houston	Murray	June 3
Campbell-Kenton	C. A. Morris	Covington	June 3-17
Carlisle	J. F. Dunn	Arlington	June 1
Carroll	J. M. Ryan	Carrollton	
Carter	Don E. Wilder	Grayson	June 8
Casey	William J. Sweeney	Liberty	June 24
Christian	M. A. Gilmore	Hopkinsville	June 15
Clark	R. E. Strode	Winchester	June 18
Clay	J. L. Anderson	Manchester	June 8
Clinton	S. F. Stephenson	Albany	June 19
Crittenden	C. G. Moreland	Marion	June 14
Cumberland	W. F. Owsley	Burkesville	June 2
Daviess	Alice W. Davis	Owensboro	June 8-22
Elliott		Sandy Hook	
Estill	Tracy Wallace	Irvine	June 9
Fayette	John Harvey	Lexington	June 15
Fleming	C. W. Christine	Flemingsburg	June 9
Floyd	J. G. Archer	Prestonsburg	June 30
Franklin	Grace R. Snyder	Frankfort	June 3
Fulton	Gradie R. Rountree	Hickman	June 9
Gallatin	J. M. Stallard	Sparta	June 17
Garrard	J. E. Edwards	Lancaster	June 17
Grant	P. E. Harper	Dry Ridge	June 16
Graves	H. H. Hunt	Mayfield	June 1
Grayson			
Green	S. J. Simmons	Greensburg	June 7
Greenup			June 11
Hancock	F. M. Grffin	Hawesville	June 7
Hardin	D. E. McClure	Elizabethtown	June 10
Harlan	C. M. Blanton	Harlan	June 19
Harrison	W. B. Moore	Cynthiana	June 7
Hart	S. F. Richardson	Munfordsville	June 1
Henderson	Walter O'Nan	Henderson	June 14-28
Henry	Owen Carroll	New Castle	June 28
Hickman		Clinton	June 3
Hopkins	David L. Salmon	Madisonville	June 3
Jackson			June 5
Jefferson	Arthur T. Hurst	Louisville	June 7-21
Jessamine	J. A. Van Arsdall	Nicholasville	June 24
Johnson	P. B. Hall	Paintsville	June 12
Knott	M. F. Kelley	Hindman	June 26
Knox	T. R. Davis	Barbourville	June 25
Larue	D. W. Gaddie	Hodgenville	June
Laurel	Oscar D. Brock	London	June 9
Lawrence	L. S. Hayes	Louisa	June 21
Lee	W. D. McCollum	Beattyville	June 12
Leslie	John H. Kooser, Act. Sec'y	Hyden	June
Letcher	R. Don Collins	Whitesburg	June 29
Lewis			June 21
Lincoln	Lewis J. Jones	Hustonville	June 18
Livingston	William C. Davis	Smithland	June
Logan	Walter Bryne, Jr.	Russellville	June 2
Lyon	H. H. Woodson	Eddyville	June 1
McCracken	Leon Higdon	Paducah	June
McCreary	R. M. Smith	Stearns	June 7
McLean	L. Hubert Medley	Livermore	June 10
Madison	H. G. Wells	Richmond	June 17

COUNTY	SECRETARY	RESIDENCE	DATE
Marion	W. A. Risteen	Lebanon	June 15
Marshall	S. L. Henson	Benton	June 16
Mason	O. M. Goodloe	Maysville	June 9
Meade	A. A. Baxter	Brandenburg	June 24
Menifee	E. T. Riley	Frenchburg	June
Mercer	J. Tom Price	Harrodsburg	June 8
Metcalfe	E. S. Dunham	Edmonton	June 1
Monroe	George E. Bushong	Tompknisville	June
Montgomery	D. H. Bush	Mount Sterling	June 8
Morgan			June
Muhlenberg	G. L. Simpson	Greenville	June 8
Nelson	R. H. Greenwell	Bardstown	June 16
Nicholas	T. P. Scott	Carlisle	June 21
Ohio	Oscar Allen	McHenry	June 2
Oldham	S. J. Smock	LaGrange	June 8
Owen	K. S. McBee	Owenton	June 3
Owsley	John R. Aker	Booneville	June 7
Pendleton	W. A. McKenney	Falmouth	June 9
Perry	D. D. Turner	Hazard	June 14
Pike	F. H. Hodges	Pikeville	June 7
Powell	I. W. Johnson	Stanton	June 7
Pulaski	M. C. Spradlin	Somerset	June 10
Robertson			June
Rockcastle	Lee Chestnut	Mount Vernon	June 10
Rowan	A. W. Adkins	Morehead	June 14
Russell	J. B. Scholl	Jabez	June 14
Scott	L. L. Cull	Georgetown	June 3
Shelby	A. D. Doak	Shelbyville	June 17
Simpson	N. C. Witt	Franklin	June 8
Spencer	No Organization		
Taylor	M. M. Hall	Campbellsville	June 10
Todd	B. E. Boone, Jr.	Elkton	June 2
Trigg	H. L. Wallace	Cadiz	June 30
Trimble	J. J. Gerkins	Bedford	June
Union	D. C. Donan	Morganfield	June 30
Warren	Hal Neel	Bowling Green	June 9
Washington	J. H. Hopper	Willisburg	June 16
Wayne			
Webster	C. M. Smith	Dixon	June 25
Whitley	C. A. Moss	Williamsburg	June
Wolfe	G. M. Center	Campton	June 28
Woodford	Charles F. Voigt	Midway	June 3

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● The summer traveler or camper frequently accepts chances of infection by *Endamoeba histolytica.* Unguarded water supplies, food prepared by unknown hands, the unavoidable presence of the housefly—all contribute to the possibility of ingestion of the cysts of this organism.

Throughout the year the physician has many occasions to consider amebiasis in the differential diagnosis, inasmuch as 5 percent to 10 percent of the population of the United States is infected. The symptoms of amebic infestation are protean and suggestive of a variety of diseases of different etiologies.

Carbarsone, Lilly (p-carbamino phenylarsonic acid), is effective in treatment, is of low toxicity, and is usually successful without supplementary medication. It may be given orally in capsules or tablets, or it may be administered by retention enema. Supplied in 0.25-Gm. pulvules; in 0.05-Gm. and 0.25-Gm. tablets; in boxes of six 2-Gm. vials; and in one-ounce bottles.

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AMERICAN MEDICINE

We have just finished the rather stupendous task of reading the two volumes, of collected factual data and opinions of American physicians published by The American Foundation.

At first confusing and, later, engendering the fear that students with biased mentality, having reverence for source material, will be able to quote from its pages opinions supporting almost any plan or program, it left us, on the whole, rather well satisfied with the attitude of the physicians of America on the socio-medical situation that confronts us. Unfortunately, few other than physicians, even sociologists, will read and weigh the entire evidence with a continuity and background that will enable them to arrive at a definite conclusion as to what should be done about it.

One is left in exactly the same predicament when one reads the formal recommendations of semi-official medical groups. In the current issue of the Journal of the A. M. A., the Advisory Committee on Maternal and Child Health formally and seriously recommends that "Extension of the maternal and child health work begun in 1935 through federal cooperation with the states * * * requires appropriation of public funds for maternal care, medical and nursing, for all women in need of such care, considering need as including not alone economic but also medical needs and lack of inadequacy of existing facilities. This extension should include not only provision of increased resources for actual maternal care, including care given locally by general practitioners and nurses, but also expert obstetric and pediatric consultation service in areas where such is not available and hospitalization of emergency and other selected cases." This recommendation was approved by the General Advisory Committee on Maternal and Child Welfare Service of the Children's Bureau at its meeting in Washington in April. If enacted into law, this would be a frank beginning of State controlled practice of medicine, which would undoubtedly be extended *pari passu* in all of the other specialties.

This recommendation, taken with those in the comprehensive study of all the other medical needs of the population set out in the two volumes upon which we are commenting, gives us food for serious thought. Those students of medical service in the United States who are best qualified to have an opinion on the subject are practically unanimously opposed to any form of so-called compulsory health insurance or any system that has yet been conceived for providing any State control of the practice of medicine.

It is our considered opinion that compulsory health insurance would be an extravagant and wasteful expenditure of money to provide for a wholly inadequate service which would be limited to the great wage-earning class of American citizens. For example, in Kentucky, it would require an additional ten per cent income on the part of the State, supplemented by an even larger sum to be provided by the Federal Government, to pay for an adequate medical service for all of the people of Kentucky. The mere statement of the enormous sum of money involved in a State which has already probably reached its limit in its tax resources shows the impossibility of the adoption of such a plan even if it were desirable.

The practical administrator realizes that any plan of medical service which might be adopted by the State must provide for *adequate* service. The mere management of such a movement by the profession itself would involve, for administrative purposes alone, an expenditure which would be unattainable. From a rapid study, we would estimate that it would require twice as many physicians as are now practicing medicine in Kentucky to carry through such a program and that from twenty to twenty-five per cent of this additional group would be connected with the administrative rather than the service features of the program.

Compulsory health insurance, a patent misnomer, would provide for much the same service now rendered to wage earners by the profession at an enormously increased expense to the wage earners, even if a considerable proportion of their cost of medical care should be borne by the general public who are not wage earners. We say that the term "Health Insurance" is a misnomer because Mr. Hoffman's excellent statistical studies demonstrate definitely that health conditions in the United States are far better than in England or Scotland where this plan has been fastened on to a public which could not be rid of it if they would.

It is our firm belief, after careful study of all the evidence presented, that the medical care of the American people will be best served if our people will continue to realize that the medical profession is doing its level best, with all the knowledge of the problems, economic and otherwise, at its command, to give all the time necessary to study, research and experimentation, with a view to evolving for them an American system which will continue to preserve their health and efficiency. It is important for those who would tinker with our present plan to realize that the American people are probably healthier than those of any other nation in the world or than any that ever has been. When changes are made in a plan which has produced such results, they should be brought about by evolution rather than by drastic and revolutionary changes that might well destroy most of what we have gained in the century-and-a-half of progress we have made in the science which every one agrees has best served the whole people.

The gratitude of the profession should be extended to those who have conducted the studies published in American Medicine. It places a tremendous problem on the shoulders of the medical profession, but we feel that there is no question that these shoulders carry sufficient brains to provide the leadership necessary for their solution.

THE BEREA MEETING

Probably few places in Kentucky are so widely known over this continent as is Berea; for it is outstanding in its educational work among the young people of Eastern Kentucky, and also one of the most scenic spots of our Commonwealth.

In September our State Society gathers there for its meeting and probably no time in the year is more beautiful than the early September days in the Kentucky mountains. Not only as a place of meeting is this to be an outstanding session, but also every effort is being made to have a program that will measure up to the best we have ever had.

There is an unusual amount of new material available for presentation and discussion, and a proper presentation of this material should make this an outstanding meeting.

While there is not so much to detract from the scientific session as when we meet in the larger cities, nevertheless we are trying this year not to over-crowd the program but give adequate time for a thorough program as well as a better method of handling the discussions.

This year out of courtesy to our president who is a member of the Eye, Ear, Nose and Throat section we are fortunate in having that section meet with us. We are looking forward to their portion of the program all of which is prepared in a way to be of special interest to those in other branches as well as to the specialists themselves.

The requests from the chairman of the program committee to the various councilors calling for suggestions as to those in each district who would add to our program did not bring help from all districts but several helpful points were gained and we have endeavored to use as many of these suggestions as possible.

We are looking forward to a splendid session in September and asking the full cooperation of the whole state organization. We hope to make the Berea meeting one to be remembered for many years.

F. M. Stites,
Chairman Program Committee.

AMERICAN ASSOCIATION FOR STUDY OF GOITER

The American Association for the Study of Goiter will hold their annual meeting in Detroit, June 14th through June 16th with headquarters at the Cadillac Hotel. A splendid program has been arranged for this meeting and all physicians and surgeons who are interested in this subject are cordially invited to attend.

For further information regarding the program communicate with Dr. W. Blan Mosser, Corresponding Secretary, Kane, Pa.

SOUTHERN MEDICAL ASSOCIATION

The Southern Medical Association will meet in New Orleans, Louisiana, November 30th to December 3, with the Roosevelt Hotel as its headquarters. Already the hotels are beginning to receive reservations and any Kentucky physician who wants to stay at the headquarters is advised to make arrangements now.

This organization is really a Southern organization and all the problems of the Southern physicians are discussed by world authorities.

INVITATION

The members of the Kentucky State Medical Association are cordially invited to attend the Third Session of the Tennessee Valley Medical Association and post-graduate Assembly in Knoxville, Tennessee, June 23, 24, 25, 1937, at the Hotel Andrew Johnson. A list of the speakers and other information will be furnished by addressing a letter to Dr. Jesse C. Hill, Secretary, 409 Medical Building, Knoxville, Tennessee.

PULMONARY ABSCESS*

Oscar O. Miller, M. D.

Louisville.

Pulmonary abscess is a suppurative condition of the lungs due to a variety of causes and incited by various organisms. It is characterized by local and constitutional symptoms of varying degree and severity and is attended with a high mortality rate. The term pulmonary abscess is loosely applied to any acute or chronic suppurative condition occurring in the lung such as suppurative pneumonitis, aspiration pneumonia, necrotizing bronchopneumonia, foreign body aspiration, bronchiectatic pulmonary abscess and gangrene of the lung. A distinction should be made between bronchiectatic pulmonary abscess and gangrene of the lung for the purpose of treatment. The latter is invariably due to aspiration of infectious material from pyorrheal pockets in the gums or from infected tonsils. Such material invariably contains anaerobic organisms, especially spirochetes and vibrios that cause rapid destruction of the terminal bronchi and surrounding tissues. It is rather rare for gangrene of the lungs to occur as a result of infections from lesions elsewhere in the body although the gastro-intestinal tract contains many anaerobic organisms and in localized infections in this region such organisms are a potential source for pulmonary infections. In the sixty cases presented herewith there has been no attempt to separate gangrene of the lung from suppurative pneumonitis and pulmonary abscess in the statistical study although it is advisable to do so in considering treatment.

In a paper presented previously before this Body on Pulmonary Abscess[2] the discussion was confined to pulmonary abscess with cavity formation in contra-distinction to suppurative pneumonitis. In this presentation the material covers all suppurative lesions of the lung with the exception of abscess resulting from malignancy and bronchiectatic abscess and foreign body.

Bacteriology: Any of the pyogenic organisms may be implicated. It is surprising the inadequacy of the bacteriological investigations in the average cases of pulmonary abscess. Mycotic infections are occasionally encountered but whether these are primary invaders or secondary it is difficult to say, their recognition, however, is important in regard to treatment. The same may be said for the vibrios and spirochetes. There has been no serious bacteriological investigation of the cases under discussion. In the few cases investigated consideration was given to fungus infection and spirochetes. With a more universal bronchoscopic investigation it is probable that in the future more accurate studies will be available as secretion may be obtained without mouth contamination. Those who have investigated the anerobic infections, (Wessler[1], Smith[3]) find the spirochetes and vibrios predominating in association with anerobic streptococcus gamma and bacillus melanogenicum. It suffices to say that anerobic organisms are the chief if not the only cause of gangrene of the lung.

Morbid Anatomy: The onset may be sudden and acute or insidious and mild. In this series twenty-five per cent were post-operative, forty per cent were associated with infections of the respiratory tract such as influenza, pneumonia or colds. Fifteen per cent were insidious and gave no discoverable cause. Unfortunately in 18.3 per cent of these cases the histories were inadequate and the onset was not recorded. In King and Lord's[4] Series sixty-four point seven per cent were referable to previous surgical procedures of which the upper respiratory tract operations accounted for fifty-five point seven per cent. It is not necessary to enter into the perennial argument as to the merits of aspiration infection versus embolic infection. I believe most of us agree that the predominant route is by aspiration. A moderate number of cases develop following unconsciousness either coma or alcoholism, post-operative, vomiting and during sleep due to aspiration of infectious material from the mouth or tonsils. In a moderate number of cases presented herewith notation was made that severe pyorrhea existed and was the probable cause of the pulmonary gangrene.

Table I.

Lung Abscess—Onset

Post Operative		15	25%
Tonsils	10		
Teeth	1		
Other	4		
Catarrhal		14	23.3
Influenza		4	6.6
Pneumonia		6	10.0
Insidious		9	15.
Traumatic		1	1.
Not recorded		11	18.3

As is well known pulmonary abscess and other suppurative conditions predominate in the right lung. In the present series forty-two or seventy per cent occurred in the right lung and eighteen or thirty per cent in the left. Pulmonary abscess occurs twice as frequently in males as in females. In this series there were thirty-seven white males and three colored males making a total of forty and twenty cases occurred in white females. Why abscess should predominate in males is not entirely clear unless it may be due to lack of oral hygiene in the average male. An attempt was made from the X-ray to localize the lesion but the infrequency of lateral X-ray films made it difficult to do so. Table 11 however, attempts to do this and shows that seventeen were in the right upper lobe, fifteen in the right lower lobe and four questionably in the right mid lobe. Three were in the root region. In the left lung nine were thought to be in the upper lobe and eight in the base. Two cases were recorded as empyema, secondary to pulmonary abscess, in each the location of the abscess was indeterminable. One bilateral case was probably embolic. Usually the localization of the infectious material sets up an acute inflammatory reaction with a rapid destruction of tissue in seven to nine days with a more or less extensive inflammatory reaction extending into the adjacent lung tissue rendering it oedematous. Frequently the onset is pneumonic in character with consolidation and atelectasis of the lobe which fails to form a definite abscess cavity; either no cavity is observed on the X-ray or else minute irregular areas of radiolucency are discernible. There is another type of lesion that begins in the root of the lung and simulates a suppurative adenitis which in the course of many weeks slowly invades the adjacent pulmonary tissue. Both this and the pneumonic type of lesion have a scanty expectoration and this is the type which due to their chronicity usually do badly and have considerable residual pathology.

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*Read before the Kentucky Medical Association, Paducah, October 5, 6, 7, 8, 1936.

Table II.

Location of Abscess

Right Lung	42-70%	Left Lung	18-30%
Upper Lobe	15		7
Upper Lobe Base	2		2
Mid Lobe (?)	4		
Lower Lobe Apex			4
Base	15		4
Empyema	1		1
Bilateral	1		
(embolic)	1		
Root	3		
Right (not specified)	1		

Incidence Sex: Male 40 cases 66.6%
Female 20 cases 33.3%

Symptomatology: The order of frequency of the symptoms in pulmonary abscess is cough, expectoration, hemorrhage, pain, fever, sweats and those of long standing are associated with some loss of weight, strength and secondary anemia. One of the first symptoms noted is cough and practically speaking all of the histories contain this as a prominent symptom. It usually is dry, hacking, later associated with gradual increase in expectoration and in a few cases there is the classical history of a sudden expectoration of a large amount of pus. All cases, however, are associated with expectoration sooner or later. Hemorrhage is an outstanding symptom and occurs in practically every case of pulmonary abscess either in the form of streaked sputum and in this series pronounced hemorrhage in the majority. Pain is an important factor[5]. It appears relatively early and is a valuable sign in localizing the seat of trouble and is an excellent index for surgical approach as the lesion extends early toward the pleura contiguous to the site of infection. This, of course, is to be correlated with the physical and roentgenological findings. It is interesting to note that in no other part of the body are pyogenic infections associated with foul-smelling pus with the exception of colon infections. It is significant that foul sputum is invariably associated with pulmonary abscess when infection has occurred with anaerobic organisms. Conversely a very large percentage of pulmonary abscesses are not associated with fetid sputum. The history therefore is most important in determining the presence of pulmonary abscess, especially if pulmonary symptoms follow close on the heels of operations especially in the upper respiratory tract. As already mentioned in King and Lord's series sixty-seven per cent were post-operative in character. Fifty-five

Table III.

Frequency of Symptoms in Lung Abscess in 23 Cases

Cough	23
Expectoration	20
Hemorrhage	15
Pain	11
Sweats	6
Malodorous	6
Loss of Weight	6
Fever	4 (?)

point seven per cent were due to operations on the upper respiratory tract. Foul smelling sputum should invariably be interpreted in the light of a pulmonary abscess or gangrene of the lung. Occasionally the patient will have no offensive odor to the breath except during the act of coughing. Some patients who deny foul smelling sputum will complain that the sputum has an offensive taste.

Physical Signs: Pulmonary abscess is characterized in its early stages by the paucity of physical signs, later on as it extends and involves the pleura impaired percussion note to dullness obtains. Changes in the breath sounds occur which may be either broncho-vesicular or bronchial in character and not infrequently diminished breath sounds prevail. Rarely are the signs of cavitation elicited. Post tussal rales are rarely present and when they occur one should think of pulmonary tuberculosis. More often the adventitious sounds consist of deep seated bronchial rales with an occasional inspiratory rhonchi. In pleural involvement fine pleural rales become evident. There should be no diagnostic difficulties between pulmonary abscess and pulmonary tuberculosis except in those cases with an insidious onset involving the upper lobe. Here tuberculosis is always to be given due consideration, however, it can not be sufficiently stressed that a sputum persistently negative for tubercle bacilli in the presence of pulmonary lesions with purulent expectoration invariably excludes tuberculosis and warrants consideration of a non-tuberculous involvement.

Roentgenological Aspects: The roentgenological aspects of pulmonary abscess may run the whole gamut of roentgenological interpretation. Its early manifestation simulates broncho-pneumonia; later with consolidation it paints an exquisite picture of lobar pneumonia. In upper lobe involvements tuberculosis again is to be considered. Usually unilateral pathology should lend consideration to pulmonary abscess; as in moderately advanced and far advanced tuberculosis invariably there is some involvement in the contra-lateral lung. Basal lesions of course. are invariably interpreted as non-tuberculous until their tuberculous character is determined. In pulmonary abscess the density is usually homogeneous in appearance representing inflammatory exudate, whereas in tuberculosis there is invariably a mottled infiltrated appearance to the shadow with more or less inflammatory exudate. Generally we may say that cavities with large fluid levels are probably abscess cavities whereas cavities containing air are likely to be tuberculous.

Treatment: The treatment of lung abscess is primarily medical for the first six or eight weeks, under which approximately twenty per cent to thirty per cent recover. In this series thirty one point one per cent recovered, thirteen point three per cent improved making a total of forty-four point four per cent of potential recoveries.

Routine Treatment: This consists of rest in bed, a full nutritious diet and postural drainage. For basal lesions the patient should be inclined at an angle of forty-five degrees with the affected side uppermost. The frequency with which this should be carried out will depend upon the severity of the case and the amount of sputum raised, usually two to four times daily, avoiding proximity to meals. It is necessary by experimentation to find that position which favors drainage in each patient. A correlation of the physical signs and roentgenogram with the patient's statements are helpful. Occasionally patients state they cannot lie in certain positions because it causes cough and copious expectoration; obviously that is the position they must assume for adequate drainage. Many patients complain of the odor and nauseating offensive taste to the sputum which seriously interferes with the appetite. Mouth washes and steam inhalations of creosote or menthol and eucalyptus should be tried. A pan of charcoal in the room acts as an absorbant for the odor. Cough is to be encouraged but in the early stages, a non-productive, exhausting cough should be controlled with codeine in combination with a stimulating expectorant.

Table IV.

Pulmonary Abscess
Treatment and Results

Routine	45		Operated	17	
Bronchoscopic	9			2	
Arsphenamines	2				
Alcohol & Glucose	3-2			2	
Pneumo	6			2	
Recovered	14-	31.1%		7	41.2%
Improved	6	13.3		6	35.3
Unimproved	7	15.5		3	17.6
Residual Pathology	9	20.		6	35.3
Chronic Abscess	4	8.8		3	17.6
Died	13	28.8		2	11.8
No record	3	6.6			
Came to operation later in Chronic Stage	4				
No record as to treatment or results	1				

Bronchoscopy: In pulmonary abscess due to aspiration of infected material following operations upon the upper respiratory tract, early bronchoscopic drainage is of distinct value and occasionally leads to prompt recovery. It should be employed more frequently and is especially recommended where available, before undertaking the more serious surgical procedures. In those cases that exhibit intermittent drainage and exacerbations due to periodic occlusion of the bronchus either with tenacious muco pus, swelling of the inflamed mucosa or granulation tissue, bronchoscopic aspiration is particularly beneficial and may obviate surgical intervention. Bronchoscopic drainage is helpful in about ten per cent of the cases. Not infrequently copious expectoration follows bronchoscopy even though very little material may have been aspirated. Bronchoscopy is of distinct value in assisting in accurately localizing the pulmonary abscess as the bronchoscopist can determine from which lobe the pus is draining. It is indispensable in foreign body abscess and abscess due to endobronchial carcinoma. In abscess superimposed on bronchiectasis it also is clearly indicated and may bring prompt relief. The one indication for the use of iodized oil is in determining the presence or absence of bronchiectasis. Ordinarily none of the oil can be made to enter the cavity; it is sufficient to outline the regional bronchi. Repeated bronchoscopic drainage is of inestimable value in clearing out the bronchi, reducing the inflammatory process and improving the patient's condition preparatory to lobectomy. In none of the cases in this series could cure be attributed to bronchoscopic drainage. It is none the less a valuable procedure and should be resorted to early in a majority of cases.

Arsphenamines: It is important to examine the sputum for spirochetes and when these are present, Arsphenamine may be employed in small doses (.15 grams) twice a week in the hope that some improvement may be initiated. In this series it was used in two cases where spirochetes were present with complete recovery. In King and Lord's Series fifty-five patients were treated with neoarsphenamines and he concludes that no favorable effect was to be ascribed to its use. He does state however that seven cases were treated with three or more doses within thirteen to twenty-one days of the onset of the disease in which two recovered completely and one died. The arsphenamines are worth trying in gangrene of the lung if they are used with ordinary precautions and the kidneys watched to avoid damage. Rarely cases may be made much worse by the use of arsphenamines. They should not be used indiscriminately in any and all abscess cases.

Alcohol and Glucose: Some French[6] writers are very enthusiastic about the intravenous use of alcohol and glucose in the treatment of pulmonary abscess. They report recoveries in even long standing cases. This was used in three of these cases; in one complete and prompt recovery occurred; in the other two no benefits were observed. In two other cases not included in this series complete recovery was brought about following its use. The favorable results are thought to accrue due to attenuation of the organisms and to stimulation of the reticulo-endothelium system in the lung with an increased production of anti-body. It is necessary to give about two hundred cc. of absolute alcohol in the course of treatment. The solution consists of a thirty-three per cent absolute alcohol in five per cent glucose. The dose is fifty cc. intravenously. This is repeated daily or every other day according to symptoms until the patient has received two hundred cc. of alcohol. It is contra-indicated in the presence of renal and hepatic disease. Unfortunately it produces a sclerosis of the veins so that it is advisable to give the maximum amount in the shortest period of time. If no improvement is observed after ten injections it should be discontinued. Its use in the present series has been too limited to assess its value but since abscess is such a serious disease it is worth trying in the early stages.

Pneumothorax: Pneumothorax has its staunch advocates who report favorable results. In my experience the results were negligible owing to the fact that the cases were of long standing and pleural adhesions had already formed; which prevented an adequate collapse. I consider it a hazardous undertaking in pulmonary abscess as there is always danger of a severe complicating empyema and the hazard of shutting off drainage. I am of the opinion that the cases that have recovered with artificial pneumothorax would have healed spontaneously under routine treatment if left alone. The treatment of abscess by pneumothorax is founded on wrong principles. The objective in pulmonary tuberculosis is to bring about rest for the diseased lung. In abscess the desideratum is drainage. Pneumothorax is more likely to inhibit than to promote the latter. The secret of treatment in lung abscess is adequate drainage. When this does not occur we must consider other methods to bring about the desired result. If under routine treatment the patient is not making a satisfactory and progressive recovery surgical intervention must be considered. It is important that the patient be not carried on routine treatment beyond the favorable time for surgical procedure. If this be done pulmonary fibrosis is likely to develop producing a rigid fibrotic cavity that tends to chronicity and prevents a good surgical result.

PHRENICECTOMY: Phrenicectomy or preferably phreniphaxis has been considered by some as conducive to healing in pulmonary abscess in that it is supposed to relax the lung and bring about drainage. In the past I have recommended its use especially in chronic basal abscesses, but I can see no definite benefits from this procedure and feel that it is likely to be detrimental. The expulsive force of the diaphragm is essential for pulmonary drainage and if this be inhibited the patient may be made decidedly worse. There is also danger of tortion of the bronchus with an occlusion and retention of the secretions.

SURGICAL INTERVENTION: The chief function of the clinician in the treatment of pulmonary abscess is to endeavor to bring about recovery by the simpler procedures. In the event that this does not occur he should seek the optimal time in which to place the patient in the hands of the surgeon for surgical treatment. The medical treatment of abscess should not be carried beyond six to eight weeks and in many cases if definite improvement is not manifest in a much shorter period of time surgery should earnestly be considered. This may take the form of simply pneumotomy with drainage or partial lobectomy with the cautery depending upon the extent and chronicity of the lesion. In bronchiectatic abscess lobectomy should be considered. If patients are presented reasonably early prospects for recovery are better and the patient is saved serious and mutilating operations and the danger of chronic lung abscess. The management of lung abscess therefore is neither strictly medical or surgical. The interests of the patient require the closest cooperation of Internist and Surgeon. Medical treatment should not be prolonged beyond reasonable expectation as chronic lung abscess and suppurative lung is an exceedingly serious and disabling affection that carries a high mortality rate irrespective of treatment.

PROPHYLAXIS: Since the incidence of pulmonary abscess has definitely increased with the increase of surgery of the upper respiratory tract it behooves the surgeon to utilize every prophylactic procedure available. This should consist in pre-operative oral hygiene by having infected gums and pyorrheal pockets adequately treated. The reverse Trendelenburg position should be universally employed in the removal of tonsils.

SUMMARY

Pulmonary abscess is a serious pulmonary disease attendant with about a forty per cent mortality rate. Sixty cases are reviewed as to onset, symptomatology and treatment. Seventy per cent of the lesions occur in the right lung and thirty per cent in the left. The disease occurs twice as often in males as in females. The onset was post-operative twenty-five per cent, catarrhal forty per cent, insidious fifteen per cent. The chief symptoms are cough, expectoration, hemorrhage, and pain. Pulmonary abscess is characterized by a paucity of physical signs. The chief reliance in diagnosis is history, symptomatology and X-ray. Under routine treatment thirty-one point one per cent recovered, under surgical treatment forty-one point two per cent recovered. Arsphenamines are of questionable value but in gangrene of the lung they are worthy of trial in the early stages of the disease. Alcohol glucose solution intravenously has proved helpful in a limited number of cases; its therapeutic efficacy is yet to be determined.

Bronchoscopy in the absence of foreign body has few cures to its credit. It is invaluable in assisting in localization and in promoting drainage. In bronchiectatic abscess it is indispensable. Pneumothorax in abscess is more dangerous than useful. The indications for it are limited and the requirements exacting. On the whole the cures are slightly greater under surgery than under medical treatment. On the other hand there is more residual pulmonary pathology in cases operated on than in those who recover under routine. Late operation is probably the chief factor for this.

CONCLUSION: The interest of the patient is best served by the closest cooperation of both Internist and Surgeon.

REFERENCES

1. Wessler, H. (Abscess and Gangrene of the Lung) Diseases of the Respiratory Tract, N. Y. Academy of Medicine, W. B. Saunders Co., 1936, Phil., Pa., P. 295.

2. Miller, Oscar O. Abscess of the Lung and its Treatment, Ky. Med. Jr., Vol. 31, P. 148, March, 1933.

3. Smith, David T. Relation of Vincent's Angina to Fusospirochetal Diseases of the Lung. J. A. M. A., Vol. 94, No. 1, P. 23. Jan. 4, 1930.

4. King, Donald S. and Lord, Frederick T. Certain Aspects of Pulmonary Abscess from an analysis of 210 cases. Annals Int. Med. Vol. 8. pp. 468-474. Oct., 1934.

5. Touroff, Arthur S. W. and Moolten, Sylvan E. The Symptomatology of Futrid Abscess of the Lung. Jr. Thoracic Surg. Vol. 4. pp. 558-572. Aug. 1935.

6. Paris Correspondent. J. A. M. A. Vol. 102, p. 1241.

DISCUSSION

Paul Turner, Louisville: I would like to illustrate my discussions by showing a few slides. This case has a rather diffuse lesion in the upper part of the lung, with a homogenous area of increased density and an appearance like tuberculosis with cavities seen in two areas, and the inference of course was that it was tuberculous. Nevertheless the sputum was negative and this was an abscess that was operated on by Dr. Frank. As it was way up high, he had to follow the third rib up until he reached the abscess.

This case, described by Dr. Miller, has an area of homogeneous increased density at the root of the lung. This patient refused operation. She finally consented to a phrenic nerve operation which is often advocated as a remedy for this condition that has been going on a way past the time when you can do anything by postural drainage. She would not be bronchoscoped. She would consent to a phrenic operation. I felt if we could raise this diaphragm we could get better drainage.

Here is a blocked bronchus as a result of the operation. The abscess began to swell up like a balloon and it sticks out here like a sore thumb. I thought that was going to rupture anyhow, so I would put a little air in the chest to see if I could shove it down again and get drainage. This is the air here. The abscess soon ruptured and she got the worst form of empyema it is possible to obtain, and of course that patient died in a very short time.

Dr. Frank feels that phrenic nerve operation for abscess is always contraindicated and should never be done, and that of course is an example of what should not be done. I wanted to show our mistakes because so frequently we show things that are our best results.

Here is a case, woman, age 48, of gangrene of the lung that was moribund when admitted. A gangrene of the lung and abscess of the lung are two distinct pathological conditions. She had been treated for tuberculosis for a year, and was so sick she could not be examined. We took a chance at collapsing the lung, contraindicated.

Here is the lung shortly after it was collapsed. Fortunately she got good drainage and all of that gangrenous area, which was all through that lung, cleared up rapidly. I did not know how long to keep that lung down, so I began to let it out a little bit, watching it carefully, and I found I was letting it out a little too early, so I put it back again.

Eventually, after treatment of about a year and two months we let the lung out, and this is as it is now with a certain amount of fibrosis in there. It doesn't do her any damage and she is perfectly well.

Sometimes these abscesses are down so far that adhesions are not formed in the pleura in connection with the chest wall, so that if you continue the operation you get a fistula and very bad empyema. Therefore, the operation is usually done in two stages. A rib is removed over the area that you want to reach and then either iodine or some irritant is rubbed on the outside of the pleura so that it is irritated enough and let the case go along for sufficient length of time so that adhesions are very firmly established, so when the second operation is done you can go through that pleura and the lung without any danger of spreading infection into your pleural cavity.

The operation is usually done by actual cautery and making a sufficient hole into that lung so that the abscess cavity can be entirely reamed out, and the necrotic tissue should be thoroughly removed. He does not advocate putting in tubes. The best method, he thinks is to pack that cavity and remove the packing periodically. They clear up better that way than by sticking in a tube and having really no effectual drainage.

The case I showed first had to have another operation because the second cavity that I showed there did not communicate with the first one and he had to go back again and burn out the partition between the two cavities which was not reached in the first operation. The entire abscess cavity was eventually closed and the case did very well.

Use of Heterogenous Blood for Shock Therapy. Ryss and his co-workers believe that allergy local manifestations in the gastric mucosa is the basis of ulcerative disease in many cases. They obtained arterial blood from a dog and administered it intravenously in doses of from 1 to 15 cc. Two or three injections at intervals of from five to ten days constitute a course of treatment. There were in this group sixty-four cases of intractable recurring ulcer disease and ten cases of recurring ulcer after a gastro-enterostomy. The patients were kept on a liberal ulcer diet from which animal albumins as potential allergens were excluded. Good results were obtained in 80 per cent, satisfactory results in 12 and no effect in 8. The authors selected hemoprotein of heterogenous blood as the most suitable stimulant, because it is non toxic and does not cause late complications, such as paralysis or neuritis, because it possesses considerable antigen qualities due to ready solubility of its albuminus and because it raises the cellular metabolism and phagocytosis. It is capable of activating separate organs and systems, in particular the connective tissue and the reticulo-endothelial system. By activating the regenerative and immunobiologic properties of the mesenchyma it favors early healing of the gastric duodenal ulceration. The best results were obtained from a course of three injections of large doses, 5, 10 and 15 cc. of blood.

DIAPHRAGMATIC HERNIA*

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The development of surgery of the diaphragm has been in proportion to and parallel with progress made in thoracic surgery the past decade and a half. In addition, marked improvement in roentgenologic technic has increased the frequency with which lesions of the diaphragm are recognized and has given impetus to those interested in the solution of the problems involved. So long as the general surgeon without the advantages of adequate X-ray investigation was hesitatingly invading the thorax either directly or through the abdominal cavity, only an occasional diaphragmatic hernial repair was being reported in the literature.

With an increasing number of industrial accidents which ruptured the diaphragm and permitted the escape of abdominal viscera into the thorax, came a clearer recognition of the more or less involved symptomatology of both the traumatic and congenital varieties of diaphragmatic hernia. Results of operative maneuvers on the diaphragm which are largely confined to the repair of defects, or abatement of its function by severance of its nerve supply, have now become more or less familiar to all surgeons as well as the laity whose attention has been directed to these lesions largely because of the wide spread publicity given to cases of "up-side down stomach."

The development, function, and position of the diaphragm as well as its anatomical relationships may well be reviewed in a discussion of procedures directed toward its repair. It is a dome-shaped fibromuscular septum which separates the thoracic from the abdominal cavity. On its under surface it is covered by peritoneum and on its upper surface by the pleura. The muscular layer between the pleura and the peritoneum contains the nerves and the blood vessels. Its peripheral part consists of muscle fibers which take origin from the circumference of the thoracic outlet and converge to be inserted into a central tendon. The fibers may be grouped according to their origin into three parts — sternal, costal, and lumbar. The sternal part arises by two fleshy slips from the back of the xyphoid process; the costal part from the inner surfaces of the cartilages and adjacent portions of the lower six ribs on either side, interdigitating with the transversus abdominis muscle; and the lumbar part from the aponeurotic arches, the lumbocostal, and from the lumbar vertebrae by two pillars or crura.

This fibromuscular partition has in the main three potential weak spots which normally allow for the issuance of the inferior vena cava, the abdominal aorta and the esophagus. Of these openings only the latter is likely to be of clinical significance. Trauma and embryologic defects, however may afford additional avenues for the abnormal displacement of viscera into the thoracic cavity.

According to Arey, the diaphragm embryologically is derived from four sources: (1) Its ventral pericardial portion from the septum transversum; its lateral portions from (2) the pleuro-peritoneal membranes, plus (3) derivatives from the body wall; and lastly, a medium dorsal portion is formed from (4) the dorsal mesentery. In addition to these, the striated muscle of the diaphragm, according to Bardeen, takes its origin from a pair of pre-muscle masses which in 9 mm. embryos lie one on each side opposite the fifth cervical segment. Failure in development of a part or as much as one half of the diaphragm in the embryo predisposes to hernia if the infant survives birth.

Interest in the nerves supplying this fibromuscular septum has become intensified since phrenic nerve interruption has been practiced as a palliative measure or as a supplement to radical surgical repair. As early as 1853 Luschka believed that the phrenic nerve gave off sensory fibers to the pleural surface, as well as motor fibers. Subsequent investigation by Ferguson, Capps, and others has confirmed this opinion so that now the phrenic nerve is described by most anatomists as a mixed nerve arising from the third, fourth, and fifth (mainly fourth) cervical roots. Additional motor and sensory fibers, according to Cavalie are received from the last six intercostal nerves. These studies have proved of value not only in establishing the usefulness of temporary or permanent phrenic nerve interruption, but in explaining some of the referred pain in association with diaphragmatic hernia.

The nerve is easily accessible to surgical approach in the neck as it passes downward and mesially across the anterior surface of the anterior scalene muscle about 3.5 cm. above the clavicle and immediately behind the posterior border of the clavicular portion of the sternocleidomastoid muscle. It can usually be exposed at this level through a horizontal incision about 4 cm. long which passes through the skin and platysma muscle.

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*Read before the Fayette County Medical Society, February 9, 1937.

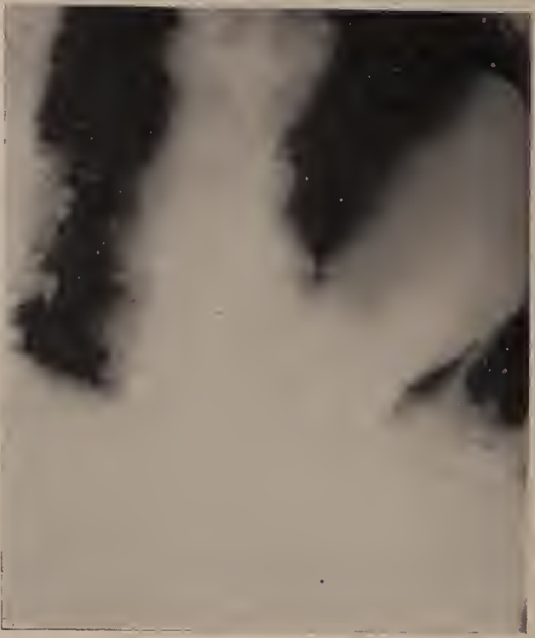
Crushing, sectioning, avulsion, or injection to induce paralysis of the phrenic nerve, now considered a relatively simple procedure, was not undertaken until 1912. Bradenheur at that time affected paralysis of the diaphragm as a means of treating bronchiectasis of the lower lobe of the left lung. Since that time the procedure has been put to various uses. Sauerbruch used it favorably in a case of tetanus in 1914, and in 1920 recommended its use in combination with extensive plastic operations on the wall of the chest. Warner, in 1926, reported a case of chest injury with hemorrhage into the pleural cavity controlled by phrenic interruption. In the treatment of pulmonary tuberculosis paralysis of the nerve has become an established procedure. Of special significance is its availability in the treatment of diaphragmatic hernia.

Goetz, in 1925, in reporting an article on the technic of radical phrenicotomy mentioned two cases of traumatic hernias in which in 1920 he had performed cervical unilateral phrenic emphraxis by freezing the nerve. Harrington, in 1928, reported a case in which relaxation of the diaphragm was necessary in order to close a large traumatic hernial opening. A year later he reported phrenic neurectomy of value as a palliative measure in the treatment of diaphragmatic hernia in cases with associated cardiac or other systemic diseases of such severity that the risk of radical repair was prohibitive. Improvement in symptoms following this procedure was noted. Sauerbruch suggested intrathoracic phrenectomy just above the diaphragm at the same time that the obstructing muscle ring is severed in cases of strangulated diaphragmatic hernia.

These varied applications of phrenic neurectomy were not undertaken until the nature and degree of harmful effects, if any, on the function of the thoracic and abdominal viscera were ascertained. Lemon sectioned the nerve in a series of dogs and noted immediate paralysis and early atrophy without appreciable impairment of respiratory function or cardiac action. His work has been checked by many investigators and the majority agree that permanent harm is minimum. An early question raised but now dispelled by the series of successfully operated cases regarded the integrity of the paralyzed diaphragm.

Any discussion of diaphragmatic hernia should include a classification, which as given by Harrington is as follows:

A. Non-traumatic diaphragmatic hernia may be congenital or acquired.



X-Ray after barium meal shows the stomach displaced into the left thoracic cavity, extending to the upper level of the second rib.

1. If congenital the hernia is attributed to embryologic deficiency and usually is without enclosing hernial sac. The most common sites in the probable order of frequency of occurrence are: (1) Through the hiatus pleuro-peritonilis (Foramen of Bochdolik); (2) through the dome of the diaphragm; (3) through the esophageal hiatus; (4) through the foramen of Morgagni; and (5) through the gap left by partial absence of the hemidiaphragm, which is usually in the posterior portion of the muscle.

2. If acquired after birth, the sites of occurrence are: (1) Through the esophageal hiatus (this type has an enclosing hernial sac); (2) through the region of fusion of the anlage of the diaphragm; and (3) at sites named under congenital types.

B. Traumatic diaphragmatic hernia may be caused by direct or indirect injury or by inflammatory necrosis of the diaphragm.

1. In indirect injury to the diaphragm the hernia may occur at any point, including points of embryologic fusion, but the most common region is the dome and posterior half of the left hemidiaphragm; it may occur in the right hemidiaphragm, and usually is the result of a severe, crushing injury. It may or may not have a hernial sac, but when through the leaf of the diaphragm, there usually is no sac.

2. In direct injury to the diaphragm, the hernia may occur at any point and is usually the result of penetrating wounds, such as those inflicted by a gun-shot or a knife.

result of inflammatory necrosis which in turn has been caused by a subdiaphragmatic abscess, or rupture may follow necrosis from drainage tubes introduced into empyema cavities. In these cases the opening in the diaphragm is usually posterior and there is no hernial sac.

In the presence of most of these types of hernia there is usually suddenly increased intra-abdominal pressure resulting at times from eating or physical exercise primarily forcing the viscera through the diaphragmatic opening into the thoracic cavity where they may be retained by the persistent positive intra-abdominal pressure and the pumping action of the diaphragm. The portion of the stomach above the diaphragm may become incarcerated or partially obstructed by the spasmodic contraction of this muscle and efforts at relief by belching or vomiting frequently intensify the distress. Temporarily the equivalent of an hour-glass deformity exists. However, when vomiting becomes established it may be repeated and intractable. The quantity contained in the supra-diaphragmatic segment of the stomach may be great enough to simulate the status of an obstructed duodenal ulcer. Intestinal obstruction from strangulated loops of small bowel is not infrequent and likewise may account for (intractable) vomiting.

A prolonged effort of this nature may produce small amounts of bright blood but gross hemorrhage is rarely a part of the picture. Recurring displacement of the stomach in the thoracic cavity may account for repeated blood loss by virtue of another mechanism. Adhesions form and tend to fix this viscus in the grip of the contracting diaphragm which in time initiates ulceration and infection. Bleeding from this lesion is very gradual and often unsuspected. It rarely provokes vomiting with coffee-ground material but is more likely to be detected as occult blood in the stool. When prolonged it may result in a marked secondary anemia.

The symptoms in the traumatic cases, as are illustrated by those in the case we report, usually appear shortly after the causative accident and develop rapidly. The sudden displacement of the heart and lungs in these cases by abdominal viscera may precipitate immediate respiratory and cardiac embarrassment. Little time is afforded for compensatory mechanisms to be established as may, in part, occur with congenital lesions before the mediastinum and thoracic cage have become fixed. The gastrointestinal symptoms are none the less acute and depend upon the viscera involved. At times the sudden pain complex is so intense following eating that the patient avoids food and within a period of a few months may lose considerably in weight.

The para-esophageal hernias are almost invariably of the congenital type. The symptoms are likely to be progressive over a long period of time, becoming more intense and more frequent as the opening is enlarged by the constant wedge action of the abdominal viscera. Large meals and strenuous exercise are the factors which initiate the distress. The pain is likely to be excruciating as it originates in the epigastrium and extends to the back or radiates to the neck or down one arm to be relieved by belching or vomiting if the incarcerated stomach or intestine is not completely obstructed by the spasmodically contracting diaphragm.

The diagnosis of diaphragmatic hernia is not always easy. Sufficient evidence is found in the literature of cases which have been previously operated for non-existent gall bladder or gastric disease, or restricted to a life of inactivity to guard against the accidents of coronary disease in vessels which were actually resilient, patent, and normal. When the history reveals the onset of thoracic distress to have originated shortly after an automobile accident or any other in which the patient was crushed or compressed in the lower chest or abdomen, examination should be conducted to eliminate diaphragmatic hernia. Large openings may allow for the displacement of the stomach and intestines into the thoracic cavity where they may reveal themselves by tell-tale gurgling sounds. Pulmonary collapse or abnormal position of the heart may provoke an injury. Small hernias may, however, give no clinical signs upon which to suspect or make a diagnosis.

Roentgen ray investigation is invaluable. The barium is administered by mouth with the patient in the upright position to better rule out esophageal and gastric lesions, then while supine with the head lowered at about 20 degrees the examiner scans the field for paraesophageal hernias and superdiaphragmatic disposition of the stomach and intestines. A roentgen ray diagnosis is almost infallible but in those cases where the dyspeptic symptoms have so closely mimicked gall bladder disease, the viscus should be visualized after dye to complete the study. A normally functioning gall bladder by X-ray is the strongest evidence against it being unhealthy.

In the course of all upper abdominal operations exploration should include digital examination of the esophageal hiatus. Harrington's experience in this regard is noteworthy. He conducted this examination in 1000 cases and found that in 55 per cent the esophageal ring was closely approximated to the esophagus by loose areolar tissue and that there was no appreciable space between the two structures. In 35 per cent of the cases at least one finger or more than one could be placed between the esophagus and the margins of the esophageal ring. In 8 per cent of the cases two fingers, and in 2 per cent three fingers could be placed between the esophagus and the margin of the opening. In those cases in which three fingers could be inserted through the opening he had special roentgenograms made subsequently and in two cases a small hernia was found.

The treatment of diaphragmatic hernia is almost invariably surgical. However, the general condition of the patient and associated disease may determine whether palliative or radical measures are to be undertaken. Intratracheal anesthesia has added to the safety of this operation. Gas, ether, or cyclopropane can be administered by this method. When the operation is completed the lung on the affected side can be inflated by positive pressure and under direct view before the last closing suture is placed. We believe that by restoring the lung to its normal status the incidence of pulmonary collapse, atelectasis, pneumonia, and pleural effusion is greatly reduced. If intratracheal anesthesia is not available and the open method is used the lung can be immediately expanded on completion of the operation by inserting a needle in the chest cavity and withdrawing the air.

The hernia may be approached by either the thoracic or abdominal route and very occasionally by a combination of the two. The advocates of the latter route believe that by entering the chest there is an added risk of infection which may result in empyema that will likely terminate the patient's life, prolong his hospital stay, or require additional surgical measures for its relief. They believe further, that hernias at the esophageal hiatus are more accessible abdominally and that the occasional necessity for operating upon a hollow viscus favors the abdominal approach.

Truesdale claims the following advantages for thoracotomy:

1. It affords a more direct approach.
2. Pneumothorax and collapse of the lung are not to be feared. They exist already as an inevitable consequence of a hole in the diaphragm and the transposition of hollow viscera to a position above the diaphragm.
3. The open thorax allows for the separation of adhesions under direct vision.
4. Once the herniated viscera are replaced within the abdomen they are out of the way, warm and well protected.
5. With less exposure of the bowel, the degree of shock is minimized.
6. Suturing from above is more simple than from below.

The phrenic nerve can be injected or crushed by this exposure and should there be great anxiety about infection, the chest can be drained by the closed method. In repair of hernias of the right side the thoracic approach is more generally accepted. The large right lobe of the liver cannot be displaced sufficiently in most instances to allow adequate exposure for suitable repair by the abdominal route and for this reason thoracic section is advocated.

A preliminary X-ray study should supply a fair estimate of the size and degree of the hernial opening to be anticipated and enable one to plan the surgical repair. Large defects may require primary interruption of the phrenic nerve by crushing, injection, or avulsion, and this can be done preferably one to two days before the major procedure. With the diaphragm paralyzed the defect may still be of such extent that closure is questionable. In such instances an extrapleural thoracoplasty removing the lower three or four ribs will often reduce the circumference of the lower portion of the thoracic cage sufficiently to enable one to complete the hernial repair.

In doing the abdominal approach an oblique upper left rectus incision is made which better places one in a position to expose the diaphragm. The left lobe of the liver when large and a source of interference can usually be displaced downward and to the right. It may be necessary to sever its ligamentous attachments. Adhesions should be carefully liberated, incised, and ligated to facilitate the reduction of the abdominal viscera. Great care should be exercised in handling the stomach. Its walls may have become thinned and weakened by infection and ulceration and may be ruptured by vigorous manipulation.

The spleen is often found in the chest cavity as in our case but it can usually be returned to the abdominal cavity. When it is inadvertently injured and hemorrhage becomes distressing or alarming, splenectomy should be done. The risk is slight and little additional time is required. When all viscera have been returned to the abdominal cavity they are packed off with large pads to expose the diaphragm.

The retracted edges are best approximated by overlapping, using linen or black silk in interrupted sutures placed approximately one-half inch apart. This line of closure may be reinforced by another of No. 1 chromic cat-gut, or in the instance of large hernias where the line of suture is under tension, by strips of fascia lata obtained from the patient's thigh. It is quite possible to close remaining defects by large squares of the fascia. When completed the line of closure which generally starts at the left or in the mid area and extends to the periphery, is carefully examined and particularly as regards the esophagus. It is good practice to have passed a large stomach tube at the onset of the operation to guard against obstructing the esophagus.

POST-OPERATIVE: The post-operative care of these patients requires close observation more to prevent or anticipate certain changes which not infrequently occur. As a rule, the shock is not great but with debilitated patients, and difficult cases requiring unusually long operative time, a transfusion of 500 cc. of whole or citrated blood should be administered within the first two or three hours following the patient's return to his room. Respiratory difficulty can often be forestalled by placing the patient on the operated side to facilitate the expansion of the good lung.

At the first sign of respiratory embarrassment, cyanosis, dyspnoea, rapid pulse, mediastinal flutter, or any of the cardiorespiratory complications that might ensue, the patient should be placed in an oxygen tent. Fluid may gather in the chest cavity but is not necessarily a serious sequel. The patient's general condition should be carefully observed and the chest examined at frequent and regular intervals. When the fluid has reached sufficient proportions to add to the patient's discomfort or respiratory embarrassment it should be removed by aspiration, repeated if necessary. Very rarely does this fluid become infected and result in an empyema.

When the abdominal viscera have long been in the chest cavity their restoration to the abdomen following hernial repair is likely to effect varying degrees of abdominal distention. This complication can be met and even safeguarded against if fluids are withheld by mouth for two or three days and administered in adequate quantities both sub-cutaneously and intravenously. If, in spite of these measures, distention and vomiting should take place, a Jutte tube can be inserted which not only relieves the discomfort, but is likely to afford decompression and prevent abnormal tension being placed on the recent suture line of the diaphragm.

The following case report of a traumatic diaphragmatic hernia illustrates rather typically the usual symptom complex, the method of diagnosis, the treatment, and some of the post-operative complications:

E. L. B., a white male 54 years of age had until the present illness been in excellent health. December 22, 1935 he was in an automobile accident and received injuries which rendered him unconscious for about 11 hours and required hospital care in another city.

X-rays of the skull showed a basal fracture. He recovered from this without the aid or need of spinal puncture or decompression. There were several lacerations in the scalp which were sutured and healed per primam. Excepting for slight pain and soreness caused from the contusions and lacerations he had no headaches, and apparently recovered from the cerebral injury without paralysis or residual nerve damage. After ten days he was considered sufficiently restored to be allowed to return to his home where he remained inactive for 2 or 3 weeks. He was quite comfortable until he resumed his usual duties as a business executive.

For the first time in his life he then began to notice shortness of breath and a feeling of fullness and discomfort in his chest. He had always enjoyed a good appetite, had been able to eat large quantities of all types of food without discomfort and had maintained a normal weight of 178 pounds. Now, he noticed that small amounts of food seemed to fill him and what had normally been considered an ordinary meal caused him distress in the form of fullness and discomfort in the upper abdomen and pressure in the chest. On the few times that he was successful, belching relieved the discomfort but it was with great difficulty that this was accomplished. He attempted to induce vomiting but was never successful.

Because of this distress which the patient attributed to over-eating, he began to reduce the quantity of food consumed until he was eating barely enough to maintain his strength, in fact, within a period of ten months he lost 16 pounds. This distress rapidly progressed, and subsequently there was added on occasions rather marked substernal pain. The patient by this time was thoroughly convinced that something was radically wrong, and presented himself for examination.

When first seen he did not appear acutely ill. He was 5 ft., 10 in. tall, and weighed 162 pounds. Examination of the head, neck, and cranial nerves showed nothing unusual. On inspection it was quite evident that the left chest lagged during inspiration. Minute investigation revealed the percussion note on this side to be dull in the lower half anteriorly and approximately lower two thirds posteriorly. Breath and whispered voice sounds were markedly reduced in this same area. In addition, loud gurgling sounds similar to intestinal noises could be heard. The apex of the heart could not be felt and the heart sounds were distant. The abdomen was normal in contour and shape and showed no evidence of scars or palpable masses. The genitalia, rectum, and extremities showed nothing unusual. Because of the history of sudden onset of distress following so shortly after the accident, a diaphragmatic hernia was suspected and the patient was examined by barium meal and barium enema.

After the barium meal was given the head of the table was lowered about 20 degrees with the patient lying supinely. The stomach filled promptly and was shown to be in the thoracic cavity, extending as high as the inner end of the clavicle. With the patient in the horizontal position the top of the barium was considerably lower in the chest. After five hours the stomach was empty with the exception of a small amount of barium. After 24 hours this was still present.

The colon was filled by barium enema to the splenic flexure which lay at a level above the diaphragm. Under the fluoroscope what appeared to be the diaphragm could be distinctly seen several inches above its normal position. Its excursion on inspiration and expiration was about normal.

With these findings the diagnosis seemed quite certain of diaphragmatic hernia and on October 7, 1936 exploration was done through a long left rectus incision. The diaphragmatic hernia was promptly found and noted to extend from the esophageal hiatus posteriorly and lateralward to the chest wall on the left. There was no hernial sac. The posterior segment of the diaphragn was the smaller. The spleen, loops of small bowel, practically three-fourths of the stomach, part of the splenic flexure, and part of the transverse colon were in the chest cavity. There were a few adhesions which could be easily liberated and the viscera were readily mobilized and returned to the abdominal cavity.

By soft packs the viscera were displaced downward to clearly expose the rent edges of the diaphragm. The left lobe of the liver was easily displaced and caused no trouble. The repair was accomplished by overlapping with double black silk sutures placed approximately one-fourth of an inch apart, starting at the esophageal extremity and crossing to the left.

When the repair was completed two fingers could easily be placed in the esophageal hiatus, which assured us that the closure could not obstruct the esophagus. The usual abdominal closure was made. The patient's immediate post-operative condition was considered excellent. Pulse did not exceed 90 the first three days; the day after operation it remained at 80. Respiration varied from 24 to 30 but the patient never complained of dyspnoea. He was kept on the left side most of the time and it was not necessary to place him in an oxygen tent. The temperature the first three days did not exceed 99.2. It thereafter remained normal.

Fluids were withheld by mouth the first three days and 3000 cc. of saline were administered subcutaneously and 2000 cc. of 10 per cent glucose intravenously daily. There was abdominal distention grade 11 or 111 the first 48 hours. This was relieved by the use of hot water bottles. There was no nausea or vomiting and the distention was not distressing enough to require the use of a Jutte tube.

From the third post-operative days the patient's convalescence was unusually smooth. On the thirteenth day an X-ray of the stomach was made and showed the stomach to be in its normal position. The chest showed a hydrothorax on the left with a moderate amount of fluid. In so far as this was not distressing to the patient and the pulse and temperature were practically normal, it was not disturbed. On the fourteenth day the patient returned home. At that time he was taking a normal diet and was relieved of all his former discomfort both in the chest and the abdomen.

Reports by letter on two occasions, four and twelve weeks since the operation, are to the effect that the patient has returned to his business, is free from all discomfort, and notes that with an increasing appetite he has gained approximately ten pounds in weight.

Summary and Conclusion

1. Surgery of the diaphragm has been developed chiefly within the last fifteen years.
2. The new field of thoracic surgery and improved X-ray diagnosis has been the chief stimulus.
3. The ever increasing incidence of industrial accidents, often with injury to the diaphragm and escape of abdominal viscera into the thorax have resulted in an early recognition of the more or less involved symptomatology of both the traumatic and congenital varieties of diaphragmatic hernia.
4. A more or less standard surgical technic has been developed which offers a high percentage of cures.
5. As a final reminder atypical gastric complaints and apparent cardiac syndromes which following shortly after accidents, necessitate the elimination of diaphragmatic hernia as the causative factor.
6. The presentation of a case of traumatic hernia illustrates rather typically the usual symptom complex, the method of diagnosis, the treatment, and some of the post-operative complications.

INSULIN PREPARATIONS WITH LOW TISSUE SOLUBILITY

A Consideration of the Accumulated Clinical Evidences of Advantages and Disadvantages of Their Use in Certain Patients, With Case Reports*

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Up to the present period the major observations of the use of insulin compounds with long absorption time has been confined to the group of diabetics in which poor control has been observed. The report on which this report is based covered a group of diabetics showing an unsatisfactory control, another group with which no such difficulty had been experienced and a third in which a slowly soluble preparation of insulin was given initial trial.

For the sake of brevity the various insulins in this report will be referred to as follows: R. insulin for regular insulin, C. insulin for crystalline insulin and P. insulin for protamine insulin. R. insulin will be indicated in the figures by solid and P. insulin by checked blocks. The group of slowly soluble compounds may be roughly divided into (a) crystalline insulins and (b) the amine insulins. They are all, yet, in the clinical experimental stage and are not on sale.

Crystalline Insulins: This group of slowly soluble insulins has not had as intensive clinical study as has the amine group. For some reason the manufacturers have not been able to produce enough to supply the profession with amounts needed to carry on clinical study. I have had no experience with any of the group and reference to it is wholly academic.

As early as 1925 Kylin found that potassium ions increased the metabolism activity of insulin, while calcium lessened it. Since then he has found that sodium dihydrogen phosphate and basic ferric chloride also increase it.

In 1926 Bertrand learned that cobalt and nickel given with insulin seemed to increase the quantity of sugar metabolized in animals. Similar experimental work was carried on by several observers and in 1935 Scott and Fisher published a paper dealing with the effects of zinc salts on the action of insulin. They found that crystalline insulin contains zinc irrespective of present methods used to cause crystallization; that it could be crystallized by nickel, cobalt or cadmium chloride equally as well when added to a buffered solution of insulin; that zinc is found in all commercial insulin; that it facilitates crystallization more actively than the other metals; that all of them are found in the pancreas and that zinc occurs in the largest amounts, indeed, is found in many times the amount necessary for crystallization of the available insulin in a gland; that when injected separately but at the same time of the injection of insulin no prolongation of insulin action was secured; that when combined with insulin they can be separated and the initial action of insulin recovered and that when combined with insulin in a 0.01 per cent solution and injected a prolonged action was secured. They concluded the change when combined is chemical, but a simple one and that dissociation leaves the original elements in their former state.

These observations may explain some variation in insulin activity of different preparations and that some of the so-called insulin-resistent patients may be explained on this basis. They also emphasize the apparent need of using both the mouse and rabbit methods of standardization.

Carrying the thought further, Scott and Fisher suggest that insulin may exist in the pancreas in an inactive state either as a combined form or as a precursor. At least, zinc may be one factor in the control of insulin liberation and activity in the patient.

Sahyum of Detroit has prepared a crystalline extract from pancreas; it is said to be as stable as R. insulin, exhibits a more prolonged time action and is administered in a single solution. The only clinical study with this insulin I found was done by Freund and Adler. Their method of study consisted in uniformly carrying each patient along for a period of ten days on each kind of insulin before blood sugar study was done for comparison. They found that crystalline insulin began to act less rapidly than R. insulin and more rapidly than P. insulin; the duration was longer than R. and shorter than P. insulin. They noted mild symptoms of hypoglycemia in normal subjects when crystalline or protamine insulin were given even though blood sugar determinations were normal at the time. In their diabetic patients the blood sugar curves flattened out more satisfactorily when crystalline insulin was given instead of R. insulin. The most satisfactory control, however, was obtained when a morning dose of R. insulin and an evening dose of C. Insulin was given. They estimated the time action of C. insulin as a period of from eight to nine hours.

Still more recently Mains and McMullen have carried on some observations on the action of a crystalline insulin preparation in the Cook County Hospital. They concluded that the preparation which they used was a perfectly stable one at room temperatures; that by comparison with data obtained on the use of R. insulin it was equally potent; that they had definitely slowed down the action and that reactions occurred less frequently; that the effects were in evidence over a period as long as 24 hours; that fewer doses per day were apparently required and that both infections and acidosis seemed to accelerate absorption.

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*Read before the Kentucky State Medical Association at Paducah, October 5, 6, 7, 8, 1936.

Protamine Insulin: Ordinary commercial insulin is a hydrochloride solution with a pH of approximately 2.5 and is rapidly absorbed after injection into the tissues. Hagedorn and his associates in the Nordisk Laboratory, Copenhagen, Denmark, announced in 1935 that while making some experiments for other purposes they found that insulin combined with nucleic acid had a pH nearer that of tissue fluid than insulin with hydrochloric acid.

During their experimental work they used several groups of substances, including histones, globins and protamines. The solubility of insulin with the latter gave the most desirable results and, of this group, the mono protamine proved the least soluble, hence was selected for study. The source of this protamine is from the sperm of a species of trout (salmo iridins). The amount of protamine used is about one-tenth the weight of insulin. The pH of the protamine suspension is 7.3, which is about that of tissue fluid, and at this level the protamine insulinate is precipitated. Hagedorn states that when injected as a suspension the deposit consists of a fluid of nearly constant insulin concentration and that absorption prolongation of time action of insulin was observed. The insulin so absorbed is the ordinary or regular insulin, but because of slow absorption a prolonged effect is obtained.

Protamine insulin, then, is insulin precipitated from a solution of insulin hydrochloride with mono protamine compounds, suitably buffered, relatively insoluble in the tissue fluids, exhibiting a slow, fairly uniform action, the result of its gradual liberation of insulin. The uniformity of its action becomes a matter for clinical determination. Its stability is not yet determined; when first introduced it was thought that ten days covered the period it might be kept, now it is known to be potent as long as four weeks. It keeps longer if low, uniform temperatures are maintained. Best advises that after the protamine has been added to insulin it should not be used for 24 hours. The vial containing the mixture should be well shaken before drawing into the syringe for injection. Syringes washed with alcohol should be dried before using*

Variations in Two-Hour Blood Sugars in Normal and Diabetic Persons

It is common clinical experience to find diabetic patients excreting urinary sugar in specimens voided on arising and with blood sugars above normal levels, but who are urine-sugar free and have normal blood sugars the remainder of the day.

It is, likewise, a clinical observation that hypoglycemia periods occur during the afternoons or evenings more frequently than during the morning hours, when equal or nearly equal amounts of insulin are given with relation to each meal.

Blood sugar studies done on normal persons at hourly intervals show some variation in sugar metabolism during the day. The curves of dextrose tolerance test meals indicate a post prandial physiological rise, but this rise is apparently not a uniform one even in the non diabetic after each of a three-meal-a-day regimen.

To establish my estimate of the norm, apparently healthy persons found to have blood sugars within accepted normal range after fourteen-hour fasts were subjected to blood sugar studies. These protocols included blood sugar determinations done at two-hour intervals for twenty-four hour periods while on a weighed diet based on metabolism requirements. The results are shown in the upper composite graph of Fig. 1. Similar studies were made of normals under fasting conditions. The results are shown in the lower composite graph of Fig. 1.

From these two groups of subjects the de-

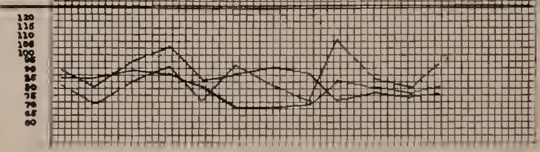

Fig. 1. The upper composite graph shows blood sugar values of normal persons on weighed maintenance diets at two-hour intervals for twenty-four hours. The lower graph shows similar studies on normals fasting.

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*Since this report was written the manufacturer of the P. insulin used in these studies (Lilly) has announced that in all material sent out in the future (November, 1936) zinc has been added and that the preparation will be issued combined in a single vial. The author wishes to acknowledge appreciation of the courtesy of Squibb and Sons, who furnished small quantities of the P. insulin used in this series of cases and to Eli Lilly & Co. for their very generous supply of the major portion used.

ductions were drawn that (1) the post prandial rise of blood sugar in non diabetic persons is not a uniform one after the three meals and (2) that a similar, though less pronounced, variation was found in fasting non diabetics.

CYCLE OF CH METABOLISM

There is a group of diabetics, however, that do not conform satisfactorily with the general principles just stated. In them the ordinary post prandial rise of blood sugar does not explain the high figures found before the first meal.

All clinicians have observed patients that showed wide variations in blood sugar curves in spite of the usual efforts to control; a hyperglycemia at one period of the day and a subnormal figure at another. Root and his group have stated that such fluctuations are among the major difficulties in the management of severe diabetics. In my experience the degree of severity of the deficiency has not seemed to be the determining factor in this group of what may properly be designated "difficult diabetics."

Mollerstrom demonstrated a rhythmic cycle in carbohydrate metabolism. At certain hours post-alimentary hyperglycemia is milder and less prolonged. This varies in different individuals and from day to day in the same individual. His work was based on that of Forsgren, who showed that carbohydrate metabolism of the body undergoes a cyclic change; that the glycogen content of the liver reaches its lowest ebb in the daytime and highest at night, a sort of moon and tide affair. He concluded these changes were independent of nutritional conditions and that the liver functions alternated in the storage of glycogen and the secretion of bile.

These conclusions serve to remind one that Hatlehol in 1924 published graphs of blood sugar curves that are yet classic. This rhythmic function of the liver assumes additional significance in the diabetic. (Fig. 2).

Agren, Wilander and Jones noted a rhythmic change in the glycogen content and believed it took place in the liver and muscles. Sprague and Newsome studied a group of diabetics on a standard glucose meal at fixed hours, no insulin, at rest in bed and three-hour blood sugars over a 24-hour period. While a variety of types of curves were obtained, partly because of varying grades of diabetes, they showed uniformly a decrease in blood sugar in the late evening and early morning, to rise before the morning meal. Similar studies were made by the author on known diabetics while on a weighed standard glucose diet, three feedings daily and without insulin. The results are shown in Fig. 3 as a composite graph.

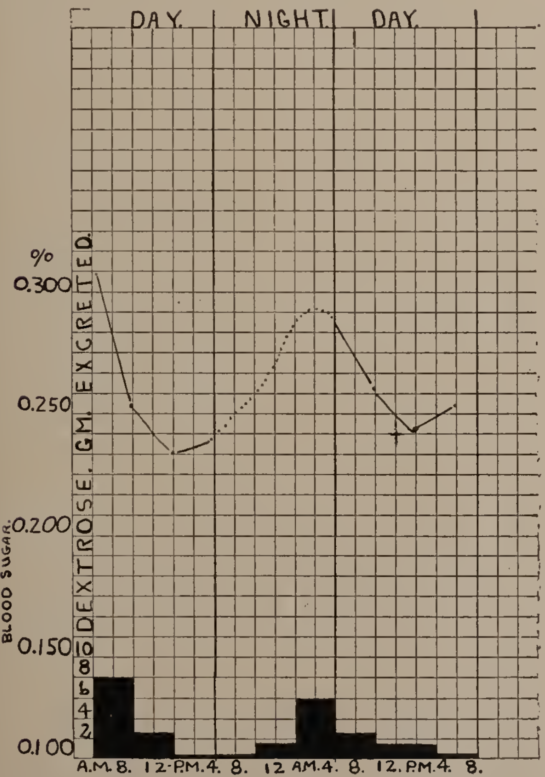

Fig. 2. Blood Sugar curve (Hatlehol) reproduced from Mollerstrom, Arch. Int. Med., LII, 651, 1936.

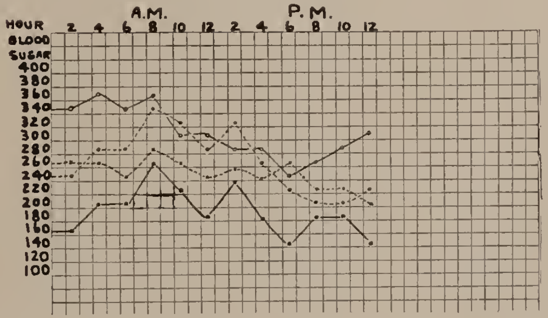

Fig. 3. Two-hour blood sugar values over a 24-hour period on diabetics at rest, given a standard 50-gram glucose meal at 7 A. M., 1 P. M. and 7 P. M.; no insulin.

COMPARISON OF EFFECTS OF R. AND P. INSULIN IN SAME PERSON AND UNDER UNIFORM CONDITIONS, EACH CLASSED AS A "DIFFICULT" CASE

Fairly dependable criteria for comparison of the effects of R. and P. insulin can be accumulated by study of blood sugar values in the same patient, subjected to conditioned observations.

The graphs recorded in Fig. 4 illustrate the variation in control in the same patient and on the same diet and same insulin dosage. A diabetic for many years on a weighed diet and R. insulin; at one time 90 units as a maximum had been required; this had been reduced to 42 on her own initiative under financial stress. This dosage was found to be inadequate when brought in for study under P. insulin. The graph on the left in Fig. 4 gives the blood sugar values at two-hour intervals for one day on 42 units of R. insulin. She was then given P. insulin, same dose and diet, for one week, and then a two-hour study was done. The blood sugar values are shown in the graph on the right in Fig. 4. A much more satisfactory control was obtained with the P. insulin.

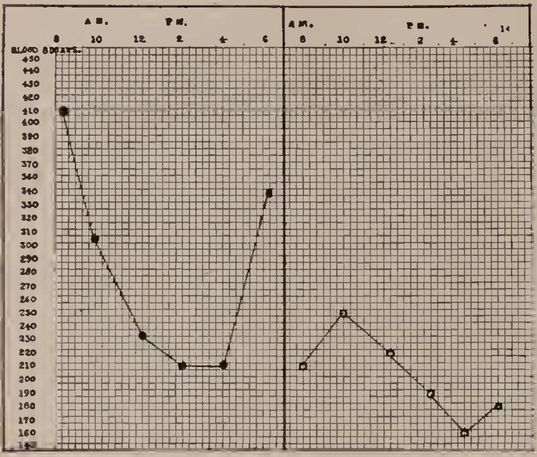

Fig. 4. Case 2825. Comparison of blood sugars at two-hour intervals on 2 separate days with one week interval. The first graph was made on R. insulin, 42 units in three equal doses; the second graph after being on P. insulin, 42 units in three equal doses for one week. On a weighed diet for years and continued without change during the comparison study. Solid dots, R. insulin; circles P. insulin.

That such results are not uniformly obtained is shown in Fig. 5. This patient was a young woman who had been a diabetic four years, during the major portion of which period she had been on a weighed diet and an adequate R. insulin dosage. A dextrose tolerance test was done as a preliminary to a period of comparative study of the effects of R. and P. insulin. The first graph shows the values obtained by this test the third week in August, 1936. She was continued on her usual day's dosage of R. insulin, given in two equal doses before breakfast and supper, through the fourth week of August. Two-hour blood sugar determinations were done one day in the first week of September, no change in diet or insulin dosage having been made. The second graph shows the blood sugar values during this day. She was put on P. insulin, same dosage twice daily, and continued on it the second week of September, and a two-hour blood sugar study was done on a day of the third week of the same month. The results are shown in the third graph. The control under P. insulin was definitely less satisfactory than under R. insulin,

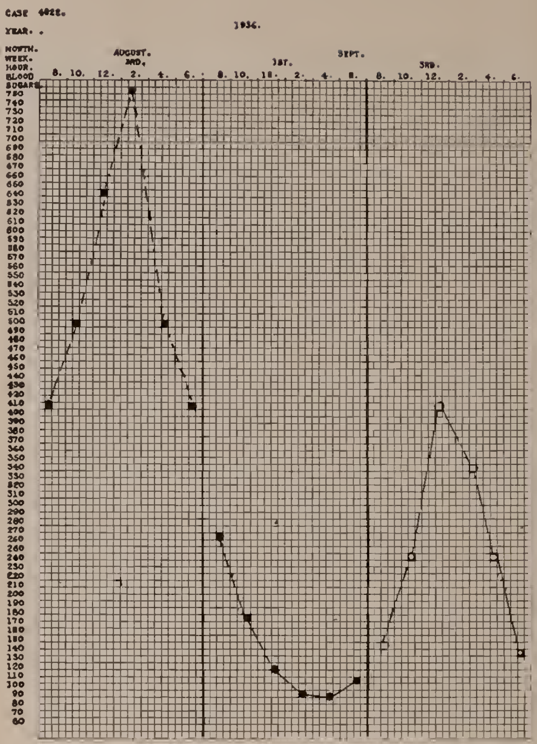

Fig. 5. Case 4822. Glucose tolerance curve, left graph, in severe grade diabetic; poor control after five months. Middle graph shows two-hour blood sugar values for a day while on R. insulin and a weighed diet; right graph shows values under same conditions after taking P. insulin for ten days; neither are satisfactory, but less so after P. insulin.

though, admittedly, poor enough under the latter.

Certainly nothing short of satisfaction could be experienced when the graphs on Fig. 6 are studied. For three years it had been difficult to control this patient's blood sugar values, though he had cooperated faithfully and intelligently. The left graph shows a fasting blood sugar of 700 mgms. per 100 c. c. of blood when first seen in January 1933; the values ranged from 100 to 280 mgms. fasting during the year on 50 units of R. insulin. The middle graph shows the fasting blood sugar values during the last six months of 1934, a range of 110 to 420 mgms. with a dosage of R. insulin from 65 to 100 units daily. The peak of 420 mgms. and 100 units were the results of an acute grippal attack. The right graph covers a period from the first week in July to the fourth week in September, 1936. R. insulin was given the first week of July and P. insulin begun the second week, with no change in the day's dosage of 55 units. The fasting blood sugar values during August and September are sat-

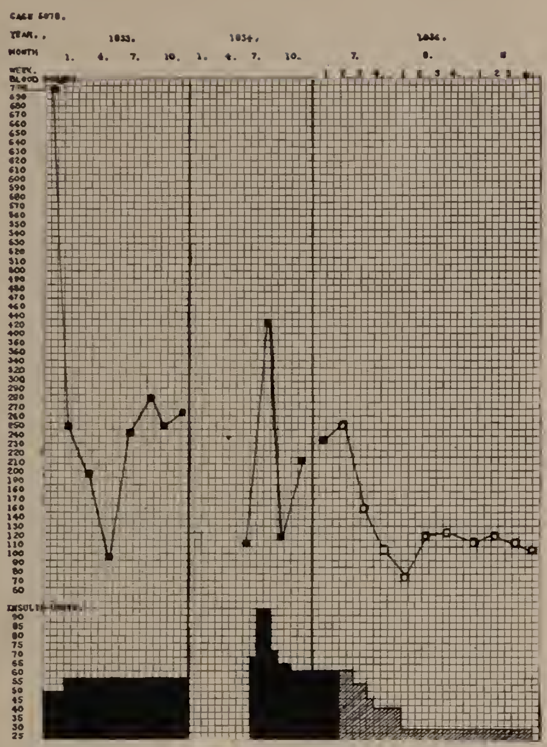

Fig. 6. Case 5078. M. Aet. 35. Diabetic 8 years; on insulin 7 years; Wt. at onset 160 pounds; present Wt. 135; weighed diet, CH 105, P. 70, F. 142. Severe grade of diabetes, showing poor control of fasting blood sugars on R. insulin during 1933-34. On P. insulin from first week of July 1936 to the fourth week of September. Note reduction in daily dosage with better control, last third of graph. Solid, R. Insulin, Shaded, P. Insulin.

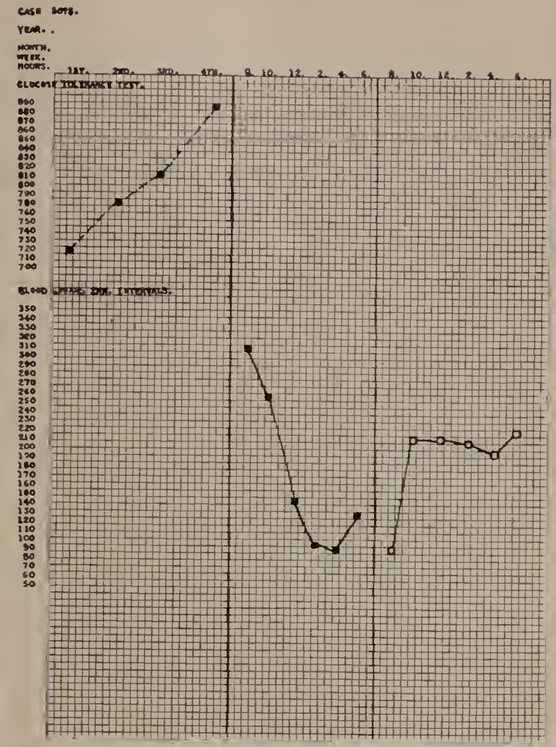

Fig. 6A. Case 5078. First graph shows Glucose Tolerance Test; second graph is a two-hour blood sugar record for one day on R. Insulin; the third graph is a two-hour record having been on P. insulin for eight weeks.

isfactory. The reduction in P. insulin dosage to 28 units daily stands as an accomplishment most difficult of explanation.

When the record of this patient was subjected to a more critical study, however, the necessity of correct timing and spread of dosage over the day becomes apparent and keeps the case in the category of difficult. Slowly soluble insulins will not permit neglect of details. Fig. 6A is a study of the patient detailed in Fig. 6, a close-up study, as it were. The left graph gives the blood sugar figures during a dextrose tolerance test in 1933 and indicates the degree of severity. The middle graph covers a two-hour study of blood sugars on 55 units of R. insulin done in 1935. The right hand graph gives two-hour blood sugars on P. insulin in 1936. The fasting blood sugar of 90 mgms on this day in July explains the apparently satisfactory blood sugar curve on P. insulin in the right graph of Fig. 6 in July, August and September, 1936.

Reference has been made to the reduction in dosage that is sometimes possible when a change to P. insulin is made. It must not be concluded that such reduction will be frequently possible. Fig. 7 shows a record where such attempt at reduction failed. This patient had always shown poor control; reactions were frequent and hyperglycemia common. The left graph covers blood sugar at two-hour intervals on 44 units R. insulin; the right graph shows the values after being on 26 units of P. insulin for a period of three months, during which time satisfactory fasting blood sugar values had been obtained. Had two-hour studies not been made for purposes of this report the case would have been catalogued as a satisfactory control with reduced dosage.

On Changing from R. to P. Insulin

Several clinicians have commented on the disturbed control of blood sugar frequently following a change from R. to P. insulin. Sugar may appear in urine and blood sugars move up and down erratically. This disturbed control may last for several days. Smith, recently commenting on the peculiarity, said it may last as long as ten days and thinks that it is more likely to occur in patients who have been using insulin for a long time. The explanation for the disturbance may be found in the thought that the glycogenic function becomes adjusted to the rhythm of R. insulin

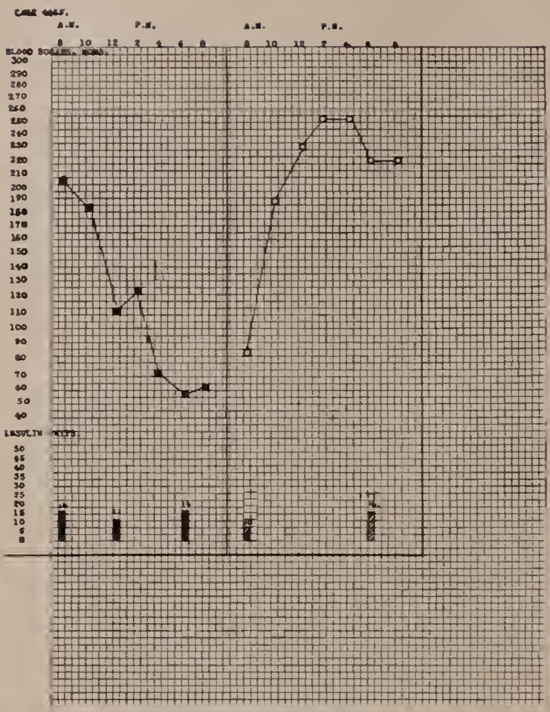

Fig. 7. Case 4465. A diabetic of 7 years; high blood sugar values from beginning, always difficult of control. The first graph shows blood sugar curve for 12 hours, weighed diet, R. insulin 44 units in 3 doses. The second graph covers a day's observation same hours on a subsequent period, having been changed from 26 units of R. insulin to 26 units of P. insulin daily 3 months previous. Both show poor control.

and must adapt itself to the slower metabolic activity of P. insulin.

Observers have also commented on improvement in patients' general feeling, lessened sense of fatigue, disappearance of visual disturbances, etc. Such improved sense of well-being is only what might be expected when blood sugars are kept more evenly nearer normal levels, and only when so kept would such bettered feeling be in evidence. It should not be thought of in terms of P. insulin effects, but rather as an improved metabolic function.

In making a change from R. to P. insulin it would appear that when difficulties of a permanent nature are encountered, they might be explained on a basis of unsatisfactory adjustment of food and insulin largely. Cases are being reported, however, as never being brought under satisfactory control. Smith found such patients to respond better to preparations with zinc or calcium combinations with protamine insulin. Kerr reported a longer time action of P. insulin when combined with zinc in his experimental studies. Such preparations are available for clinical experiment. I have not used them, feeling that until more definite information is obtained on P. insulin it would not be very scientific to begin experimenting on P. insulin plus zinc or calcium as additional unknown factors.

When undertaking a change from R. to P. insulin it has been found easier to continue giving R. insulin once daily while replacing the other one or two doses of R. insulin. Rule of thumb plans of procedure do not constitute good therapy under any circumstances, but the methods of changing in part or entirely from one kind of insulin to another may be grouped for the sake of clarity and easy memory.

(a) Change the evening dose of R. insulin to P. insulin in same unitage and continuing the R. insulin before breakfast.

(b) Give a single P. insulin dose simultaneously with R. insulin, the combined dosage being equivalent to the R. insulin being taken.

(c) An immediate change from R. to P. insulin in same amount and number of doses.

(d) An immediate change from R. insulin to night and morning doses of P. insulin.

(e) An immediate change from R. insulin to the same dosage of P. insulin given in a single dose.

My observations have led to the conclusions that a change from R. to P. insulin at once can very well be done in the lower grades of severity of the disease. In the more severe group the change should be made gradually and in some cases it is better to continue the morning dose of R. insulin.

In shifting at once from R. to P. insulin the blood sugar will likely rise and glycosuria appear during the first two or three days since the full effectiveness of the slowly soluble insulin is not reached for 48 hours or more.

After a change by any plan it will often be found that the dosage may be reduced. Sometimes such a saving in dosage may be due to a closer supervision of the diet or more care in administration of the agent, or both. Such an explanation does not obtain in the case shown in Fig. 8. This patient had given as careful attention to details during the years 1934-35 and first six months of '36 while on R. insulin as was observed during July, August and September when changed to P. insulin. The reduction in dosage was due to some other factor.

When changing to P. insulin the glycosuria may be avoided by giving some R. insulin simultaneously. When this is done it will be remembered that the two preparations must be injected at different sites. It must also be remembered that the effects of any change in dosage will not be in evidence during the first 24-hour period. For the same reason it is not wise to change the dosage more than 10 units. When on P. insulin the

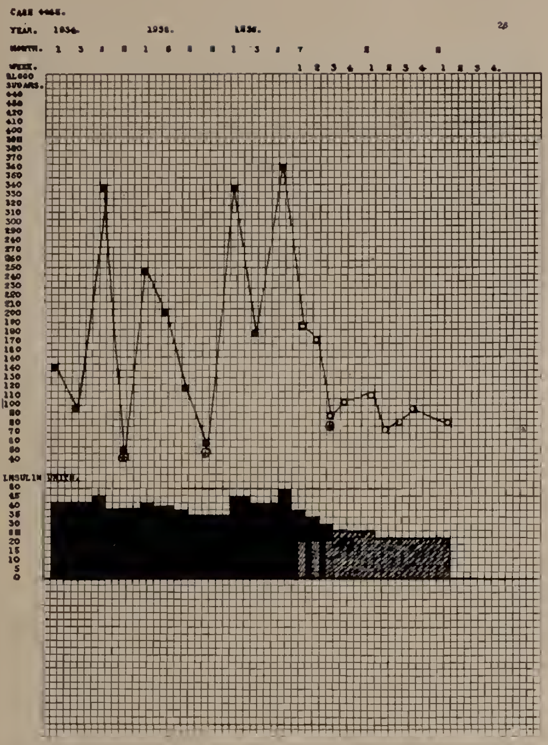

Fig. 8. Case 4465. Showing unsatisfactory control of blood sugar values for 36 months on R. insulin averaging over 40 units daily and a weighed diet supplying 130 gms. of sugar. The graph covering 10 weeks of July, August and September, 1936, shows satisfactory control on P. insulin averaging 26 units and the diet increased from 130 to 150 gms. of sugar daily. Reactions indicated by cross in circle.

results of infection, etc., as evidenced by glycosuria, had best be controlled by R. insulin as an addition to the P. dosage.

There appears no reason why new, mild diabetics may not be on P. insulin at once instead of determining the dosage on R. insulin first. Such a course would not be satisfactory in acidosis or in getting diabetics ready quickly for some surgical procedure. Such a case is shown in Fig. 9. This patient had never had insulin; no difficulty was experienced in adjusting the dosage of P. insulin without first being put on R. insulin. There are two things to keep in mind with such a patient, (a) slower responses toward normal values must be expected; (b) the changes in dosage levels should be more gradually accomplished.

Very little improvement was noted in the two-hour blood sugar values when R. insulin was changed to P. insulin in the case shown in Fig. 10. As shown in the dextrose tolerance curve in the left graph this patient had a moderately severe insulin deficiency. Under a maximum dosage of 55 units of R. insulin and a weighed diet the blood sugar values were reduced to satisfactory levels. A tonsillectomy was done, after which the insulin dosage was gradually reduced to 10 units. The middle graph shows two-hour blood sugar readings on a weighed diet and 10 units of R. insulin. After changed to P. insulin, same dosage, and kept on it for five days, two-hour blood sugar estimations were made and are shown in the right graph. Both studies were made with the insulins given in a single dose before breakfast.

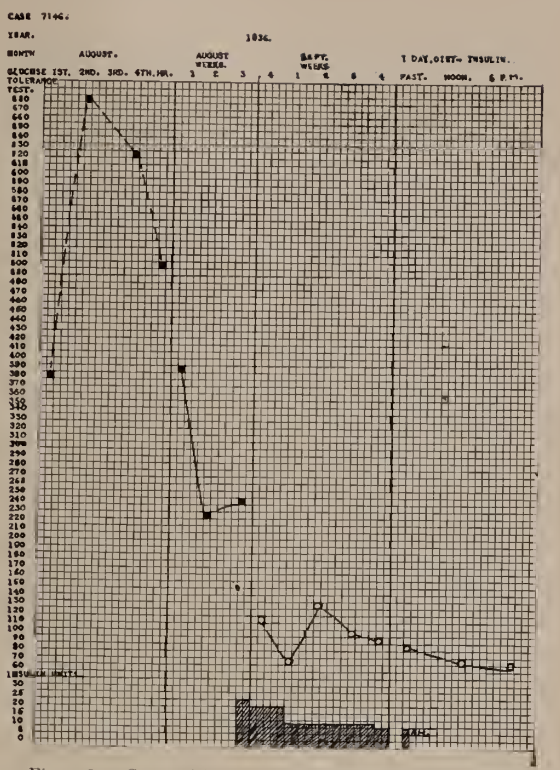

Fig. 9. Case 7146. F. Aet. 27. diabetic ten months; Wt. 134 at 26, Wt. when seen 112; tonsillectomy May 1936; the first graph shows a sugar tolerance test; the second graph covers record of three weeks fasting blood sugars, weighed diet, no insulin; the third graph shows five weeks fasting blood sugars on P. insulin; one dose daily first week, glycosuria persisting; changed to two doses daily, glycosuria disappeared in 48 hours and no reactions; the fourth graph shows one day's record of blood sugars on dosage reduced to 10 units once daily.

TIME OF INJECTION

Hagedorn carried on most of his experiments by giving a morning dose of R. insulin and an evening dose of P. insulin. Miller and his associates followed the same method at the beginning of their work, but now use a single morning dose whether regular insulin be given or not.

The time action of regular insulin has been determined; its peak is reached in from 3 to 4 hours. P. insulin seems to act over a period of from 24 to 48 hours and in some cases even longer. When changing from R. insulin to P. insulin it is better to make the change gradually in the severer grades of diabetes. Both may be given at the same time. If, for example, the patient is getting 48 units of

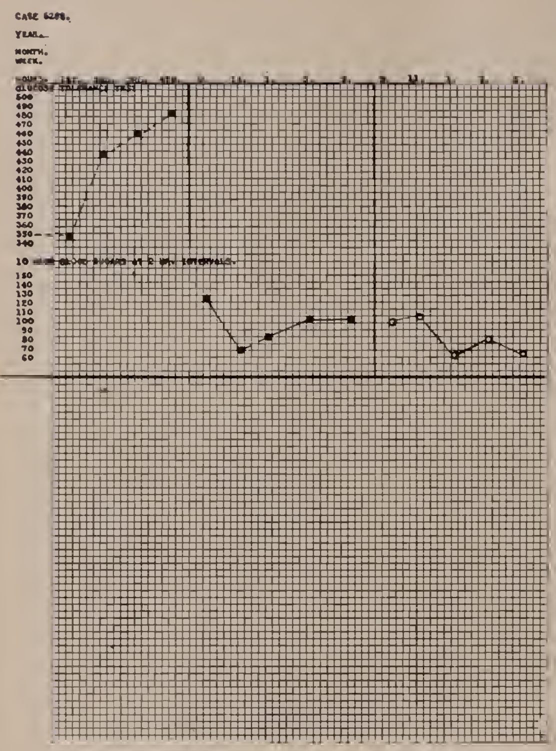

Fig. 10. Case 5288. F. M. Aet. 44: diabetic 10 years: approximated diet, no insulin until Feb. 1935. Prepared for tonsillectomy 2-28-35 with weighed diet and insulin. Blood sugar 350. Tolerance Test left graph; maximum dosage 55 units; present dose 10 units. Middle graph shows 10-hr. blood sugars on R. insulin; right graph after 5 days on P. insulin same dosage, 10 units once daily before breakfast, solid dots. R. insulin, circles, P. insulin.

R. insulin daily, divided in equal doses before each of the three meals, the change to P. insulin may be made by giving one-half (8 units) of R. insulin with an equal amount of P. insulin before breakfast. The two injections must be made at different sites for obvious reasons. The fasting blood sugars help determine whether it is better to give the two injections before the morning meal or the evening meal. In patients with high fasting sugars we give them before supper. Many of our difficult cases show high fasting sugars as a rather constant figure. In such cases half the previous total R. insulin requirement for a day is given before breakfast, with no change in the distribution of the sugar intake. Where the fasting sugar is not abnormally high the breakfast should carry more than one-third of the total day's sugar intake to care for the increase in dosage of R. insulin. After 3 or 4 days of such management the R. insulin is gradually reduced to zero, being replaced by P. insulin.

In milder cases on small doses of R. insulin, say 20 units, with normal fasting blood sugars, the change to P. insulin may be made at once, giving 20 units of P. insulin before the morning meal. The blood sugars run higher for the first two days and a trace of sugar appears in the urine. These soon settle to normal findings. Certainly the elapsed time between the giving of P. insulin and the following meal is of less importance than when R. insulin is being given. An hour or more had best intervene.

The arrangement of the diet largely determines the dosage of P. insulin as well as it does that of R. insulin. Hagedorn arranged his diets on a basis of 40 per cent of the C. H. for the day given with breakfast, 40 per cent with lunch and 20 per cent at supper. Sprague and his group adjusted their diets on the basis of 20 per cent for breakfast, 40 at lunch and 40 at supper. They also increased the C. H. allowance per day, necessitating an increase in insulin dosage.

It has been argued by some that P. insulin will allow of a less rigid dietary regimen than does R. insulin. Such may be true of some but will not prove uniformly so and I am not persuaded that it would be entirely for the best.

Variations in P. Insulin Absorption Time

There seems to be some lack of uniformity in the effects of P. insulin. One might properly inquire if one explanation of such variation might not be based on individual variations in tissue pH. Van Slyke computes the maximum disturbance of the acid-base equilibrium tolerated to be 7.0 to 7.8. These seem rigid and one marvels at the ability of the body, even in health, to maintain the safe margins of equilibrium, for below 7.0 lies coma, while above 7.8 rides tetany. Protamine insulin has a pH of 7.3 as its point of minimum solubility. It would appear that a shift toward either alkalosis or acidosis of the patient's tissue serum would correspondingly alter the solubility of the P. insulin. This thought becomes more attractive when it is remembered that R. insulin in solution has a pH of approximately 2.5; in other words, it is definitely an acid solution. If this thought holds true, it becomes apparent that uniformity of action of buffered insulin will be difficult to attain. In diabetic coma the tissue serum sinks to 7.0 and below; P. insulin injected in such tissues is more rapidly broken down from the turbid suspension and R. insulin released for action. Whether the same phenomenon obtains in the tissues of a diabetic whose pH has been raised to 7.8 or more has not been reported, but the reasoning by analogy seems sound.

The subjective sense of improvement varies. Patients should feel better when an even keel of blood sugar is maintained, but all of our patients have not so expressed themselves. Slowly soluble preparations of insulin do not mean freedom from supervision both as to dosage and diet. I have not found it either necessary or desirable to hospitalize our patients when on P insulin.

REACTIONS

Reactions do occur, of course. Their general nature differs from those of R. insulin only in degree; they are less severe, less abrupt but more persistent than those the profession has become accustomed to witnessing. I have observed them as late as sixteen hours after a given dose; they are less spectacular in onset and are, likewise, less easily controlled than those of R. insulin because prolonged. When taking R. insulin one is concerned with the food to be eaten within thirty minutes only, but since a dose of P. insulin given today is functioning tomorrow, low grade reactions may be expected to occur with unwonted frequency. No one can predict an appetite, even an ability to eat, twenty-four hours hence. My observation of hypoglycemias not due to insulin over-dosage has convinced me that the rate of reduction in blood sugar is a more important factor in reactions than the level to which it drops.

The management of reactions from P. insulin demands a radical change from that which is satisfactory for R. insulin. Orange juice, sugar or candy will quickly relieve the hypoglycemia of R. insulin and the symptoms do not tend to recur. Sugar-containing foods must be given to relieve the immediate symptoms of P. insulin reaction, but starchy foods —bread, potato, corn, etc.—are more useful to maintain the improvement.

THE FUTURE OF P. INSULIN

It is yet too early to predict the future status of P. insulin, but conclusions are not quite as premature as those made of R. insulin when it was in a similar stage of clinical evolution. The field in insulin activity was an untilled one then; there is much less of the unknown in the present situation. In fact, the only new factor is the rate of solution and, in consequence, the time of influence. However, new problems are presented by new insulin preparations. Suitable doses, combinations, amounts, timing and other factors must be worked out for each type of patient.

Best et al says the difference between R. and P. insulin as observed on the blood sugar curve, is that of a steep hill and a gentle slope. The perpendicular difference between the top and bottom of R. and P. insulin is quite small, but the length of the gradient is only from one-half to one-third as steep. They conclude that "P. insulin gives promise of being an important contribution to the restoration of a more physiological state in the diabetic patient."

The elderly diabetic with coronary disease has presented a problem about which cardiologists and physiologists are yet wrangling. It is admitted that hypoglycemia influences, adversely, the heart muscle which requires a glycogen reserve. A low blood sugar may cause vascular spasm and perhaps thrombosis. From such viewpoint insulin has been inveighed against and called dangerous. One fallacy of the conclusions of those who would have the diabetic die of coma rather than risk coronary occlusion was pointed out by Collens et al by calling attention to the fact that opponents of insulin in this condition have accounted for blood sugars after coronary disasters and not before or at the time of the episode. Further refutation is found in the relief of an anginal syndrome by the use of a high carbohydrate intake and enough insulin to control blood sugars. My own thought is that hyperglycemia is a potent factor in causing vascular disease. More diabetics are now dying of cardio-vascular disasters than from coma or gangrene. I do not hesitate to use insulin in coronary disease. Effort is made to avoid hypoglycemia, to be sure. If P. insulin proves to be of value in preventing steep rises and drops of blood sugar, it may become a boon to the diabetic

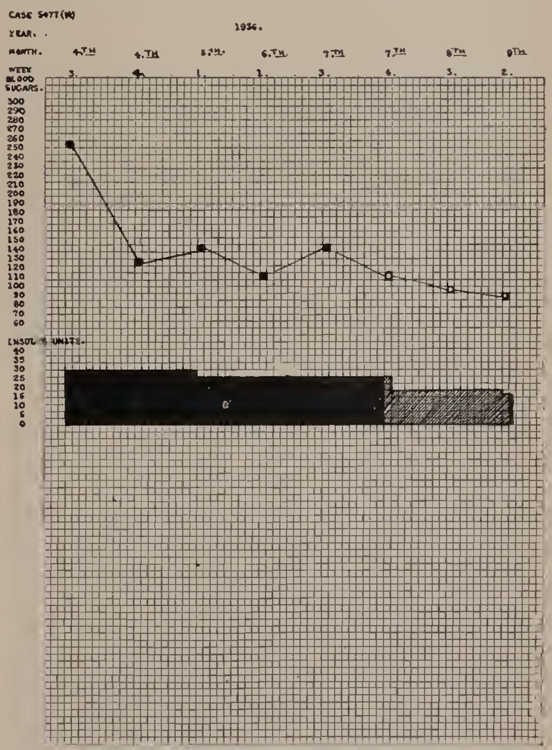

Fig. 11. Case 5477. Aet. 72. M. W. W. Glycosuria at 64; cerebral hemorrhage at 69; necrosis of toe Feb. 1936. Seen 4-23-36. Ht. 65 inches, Wt. 175 pounds. Face florid, lids puffed, necrosed area, right 5th metatarsophalangeal joint. Heart disease, arteriosclerotic, with electrocardiographic evidences of coronary disease. Edentulous, large abdomen, umbilical hernia, rectal pathology chronic, prostate hypertrophied. Blood sugar 250. Blood urea 30. Put on weighed diet 4-24-36. ℞ insulin 30 units. Foot healed 6-1-36. Chart shows the blood sugar curve for March, April, May and June on R. insulin, and for July, August and September on P. insulin.

who is also a coronary subject. Black thinks it is the suddenness of the blood sugar drop rather than the depth of the drop which induces ischemia and anoxemia. P. insulin meets such a condition if the premise be true.

Fig. 11 is a record of a diabetic with coronary disease. The blood sugar values were burned to near normal levels with R. insulin and kept within normal after being put on P. insulin. Added vigor and a better sense of well-being was voluntarily described by the patient.

DISCUSSION

This study has covered a personal experience with P. insulin only of the group of slowly soluble insulin preparations. The reference to other forms is an academic consideration of the literature to date.

The opinion is entertained that the time factor is not the only essential difference between the various members of this insulin group. That certain metals constitute a normal part in the composition of the pancreas is a feature that cannot fail to excite a keen interest in preparations of insulin in combination with these metals. The observations covered a comparative study, as well as an attempt to improve the blood sugar curves in a group of difficult control.

252 blood sugar estimations were made and all the observations were carried out on private patients in my office or in their homes. The blood sugars were estimated by the modified picric acid method. All of the observations recorded were made while the patients were on a weighed, individualized diet. I do not use standardized diets.

No observations were recorded covering treatment of coma with P. insulin. One patient, without acetone in the urine, was taken off R. insulin for 24 hours for the purpose of making a day's blood sugar determinations at two-hour intervals, with development of acidosis, but this was controlled with R. insulin.

Theoretically, it would appear logical to assign to P. insulin no role in the management of coma other than a subsidiary one after the acute symptoms have been relieved by R. insulin.

It is believed that the variation of absorption time in the group of slowly soluble forms of insulin constitutes a little understood and not much better determined phase of insulin therapy. This variation will surely make the control of the severe diabetic group less easy than would appear from some of the reports in the literature to date. It would appear reasonable to assume that conditions in the patient's body affecting tissue reaction may affect the latent period of influence on blood sugars.

The factors of (a) the amount of sugar in day's intake, (b) frequency of feeding, (c) the patient's activity, (d) the emotional equilibrium, (e) the effects of infections, which have come to be recognized as of importance in determining R. insulin efficiency, are no less important in P. insulin therapy.

The rhythmic cycle in carbohydrate metabolism seems satisfactorily established and will bulk as large in the dietary and dosage arrangements with P. insulin as with R. insulin.

It is believed that many cases of diabetes will be less scientifically treated in the immediate future with slowly soluble preparations of insulin than has been true of R. insulin hitherto, bad as that record is. Properly and carefully used they should lessen the marked fluctuations of blood sugar during the 24-hour period. They will unquestionably permit a reduction in the number of doses needed in each 24-hour period. It appears, now, to indicate that two doses daily at twelve-hour intervals give the most uniform results, though recognizing the spread of the time action for P. insulin covers a period of from 24 to 48 hours.

Reactions may be expected; they are more difficult to control than those from soluble insulin, but are less rapid in onset. When they do occur a different plan of management must be followed from that indicated in reactions from R. insulin. Easily assimilable sugar in some form should be given to combat the immediate symptoms, then starchy foods—bread, potatoes, etc., should be given to match the prolonged tendency of biting down the blood sugar to lower levels.

Of the various methods of changing from a soluble to a slowly soluble preparation the degree of severity should be the determining factor usually. Two doses daily at twelve-hour intervals has been found to be the most satisfactory plan.

The attitude of a large per cent of physicians concerning heart disease, blood sugars and insulin is thought to be leaning too much toward ultra conservatism. Hypoglycemia should be avoided, but there is no advantage gained from excessive hyperglycemia. Either extreme should be avoided. I treat my cardiovascular diabetics just as I treat any other diabetic. A diseased heart will not function better when supplied with hyperglycemic blood any more than one not diseased. The tendency toward cardio-vascular complications in diabetics is an irrefutable answer to the concern expressed by some clinicians about insulin and coronary disease.

The present preparations of slowly soluble insulinates seem to leave much yet to be desired and further improvement is to be expected. Already the addition of zinc and calcium appear to give a protracted control. I think it is a bit premature to talk of a Hagedorn era. The problem is yet in an experimental stage in both the laboratory and clinic.

CONCLUSIONS

The time action of P. insulin does not seem to indicate its usefulness in managing coma except as a supplement to R. insulin.

There is danger of great confusion from the advent of several insulins of varying degrees of solubility.

Through a slow breakdown P. insulin should cause a more even keel of blood sugar, thus avoiding sharp hypoglycemia periods.

Reduction in the number of doses each 24 hours may be expected. A single dose may replace a two-dose or a two-dose replace a three-dose R. insulin schedule.

More prolonged but less deep reductions will obtain and hence reactions will not be avoided.

Slowly soluble insulins will not lessen the need for intelligent cooperation on the part of the patient nor of comprehensive attention to details by the physician. Hypoglycemia may be as difficult to control as hyperglycemia.

Treatment of reactions from P. insulin will differ from that of R. insulin because of the longer time action of the former.

The cycle of C. H. metabolism is as much a factor in regulating dose and time of administration of P. as of R. insulin.

The slowly soluble nature of P. insulin increases the range of variability in absorption. Intervals of 12 hours are better than dosage with reference to meals.

Patients on R. insulin for a long period show disturbed control when changing to P. insulin.

The necessity for mixing preparations increases the possibilities for contamination, waste and error.

Hospitalization is not necessary except where surgical complications arise.

P. insulin should be preferable in cardiovascular patients; the blood sugar values of these patients should be kept on as even a keel and as near physiological levels as in other diabetics.

Bibliography will be supplied upon request.

DISCUSSION

Frederick G. Speidel, Louisville: Dr. Simpson has refrained from expressing an opinion as to the place that this new product will occupy in the treatment of diabetes. In that respect he differs from another authority who has written widely on the subject of diabetes and is of somewhat national importance, who, swayed by certain gratifying results with this preparation has gone so far as to designate the present time as the Hagedorn era in the treatment of diabetes, with the implication that protamine insulin has succeeded and supplanted Banting's insulin in the same sense that Banting's insulin succeeded the Allen treatment or that the Allen treatment succeeded and supplanted the so-called Van Noorden era in diabetic therapy.

Those of us who have watched and studied the careers of some of the other insulin substitutes that have been introduced in the past ten years or so, such as myrtillin and synthaline and guanidine, are inclined to withhold decision until more evidence has accumulated.

It is to be remembered that one of the great problems that confronted the original manufacturers and discoverers of regular insulin was the problem of freeing that product from protein so as to avoid the possibility of sensitizing patients to that protein and running the danger of subsequently having them suffer from anaphylactic shock. Now when we deliberately and intentionally add a protein or a protein-like substance to insulin we reinstate that very danger which was so carefully avoided in the preparation of original insulin. Already in the literature there is mention of several instances of anaphylactc shock from protamine insulin, and this new preparation must possess many desirable attributes to outweigh that single disadvantage.

We are all looking forward hopefully to the day when the treatment of diabetes will be simplified for both the patient and the physician. Today the introduction of each new preparation makes the problem more complex and if we expect to keep these complexities from degenerating into chaos we must have more of such careful scientific studies as Dr. Simpson has presented here this afternoon.

Blood Chlorides in Gastro-Intestinal Obstruction.—Voskresensky reports 428 determinations of blood chloride made in eighty-three patients suffering from acute paralytic or mechanical ileus. He found that a fall in blood chlorides to 300 mg. constitutes a grave prognostic sign in cases of acute ileus. Sodium chloride administered intravenously rapidly concentrates within the lumen of the intestine. The greater number of their patients suffering from acute paralytic ileus responded with a lively peristalsis to intravenous infusion of hypertonic solutions of sodium chloride. This effect was not obtained when the intestine was gangrenous. In order to obtain a therapeutic effect in cases of paralytic ileus it is necessary to inject about 200 cc. of a 10 per cent solution of sodium chloride.

THE TRAUMATIC CORNEAL ULCER*

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Middlesboro.

In this region of the country, where coal-mining operations are rather numerous, one can venture to state that, as far as the eye is concerned, the most frequent condition bringing the patient to the physician in general practice is corneal trauma, whether it be an abrasion, laceration, or foreign body. As a rule, the trauma was caused by a piece of coal, usually of small size, striking the eye while the patient was digging coal. And far too often, the history is that the injury occurred several days before the patient consults his physician.

The injury assumes a seemingly disproportionate importance because of a number of concomitant factors, among which may be mentioned: the usual dilatory attitude of the worker who is so apt to minimize the importance of any ocular injury, to have his fellow-workers in the mine attempt to remove any visible foreign body, and, in so many cases, to so delay, before appearing for professional treatment that an injury which was not serious originally, has become so. It seems to me that there are few injuries in which prompt treatment is of such importance, and that in any group of coal-miners an intensive attempt to impress this fact upon them would be well worth while. A second factor that makes ocular injuries peculiarly serious is that even a small, thin scar, if near the center of the pupil, can reduce the visual acuity to an alarming extent, whereas a scar anywhere else on the exterior of the body may be of some cosmetic but of no physiologic importance.

Of the five layers of the cornea, the epithelium, or outer, may suffer an abrasion, and if healing is prompt there is no residual scar visible. We have all personally experienced many such minor accidents, which makes it easier for us to understand why more serious injuries are neglected by our patients. However, if the second layer of the cornea is destroyed at any point by trauma or subsequent infection, a corneal scar will remain, the location of which is of real practical importance.

The cornea is avascular, except for a small area near its periphery, therefore the nearer one approaches its center, the most valuable area as far as vision is concerned, the less the protection against infection, the bete noir of corneal trauma. Granted that coal, the usual projectile, is sterile after its age-long stay in the bowels of the earth, nevertheless the conjunctival sac is host to a variety of organisms of various breeds, and if by any chance there is an antecedent infection of the lacrymal sac (dacryocystitis) there is potential tragedy. And our antiseptics are between Scylla and Charybdis, for they should be strong enough to be adequately germicidal and yet not injure the avascular cornea.

Other complications, not nearly so frequent as infection alone, but usually following infection are erosion and perforation of the cornea with or without prolapse of iris, secondary glaucoma, anterior synechia, meningitis. I will never forget, as a resident, seeing an elderly man who had received a corneal injury from a small piece of stone who developed an infection which progressed into panophthalmitis and despite enucleation, fatal meningitis. Anatomically, the optic nerve may be said to be an extension of brain substance.

Beware, when, several days after the injury, a dull grey area surrounds the wound. The infection is probably not under control. If the ordinary antiseptics have been inadequate, use stronger ones, such as Gifford's iodine and glycerine solution on a small tight applicator applied to the area. If atropine has not thoroughly dilated the pupil, it means that the lacrimation has diluted it below the efficiency point, or that the congestion of the anterior portion of the globe has retarded absorption, or even more serious, that the infection is progressing. Complete cycloplegia rests the iris and ciliary muscle, and, as in any other portion of the body, rest of structures contiguous to infected, inflamed tissue is highly beneficial. If necessary, administer one or more sub-conjunctival injections of atropine, adrenalin and cocaine. But, for the preservation of an occasional cornea, choose one of the newer local anesthetics such as butyn or pontocaine solution, in preference to cocaine, for examinations and treatments.

In addition to rest of the iris and ciliary body, the mydriasis aids in the flow of the aqueous in which the infection has increased the solid content with slowing of the stream and probable deleterious increase in the intraocular tension (secondary glaucoma). Also, mydriasis lessens the chance of the formation of an interior synechia.

If cycloplegia is still inadequate, and conditions are becoming progressively worse, perform a corneal paracentesis near the limbus through an unaffected portion of the cornea preferably superiorly, and reopen the wound as often as advisable to flush the anterior chamber, reduce the elevated intra-ocular tension, and permit dilatation of the pupil.

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*Read before the Bell County Medical Society meeting at Middlesboro, March 19, 1937.

Pus in the anterior chamber (hypopyon) is sterile if the cornea is intact, but probably infected if the infection has caused a perforation of the cornea.

A snug eye-patch is often of much service, both subjectively and objectively, but must be used with discretion as it is unwise to obstruct egress of pus. Frequent moist compresses, as hot as can be borne comfortably, foreign protein injections, analgesics, laxatives, somnifacients, rest in bed, general care, all are of great importance.

An occasional case will be encountered in which, in spite of energetic therapy, improvement is dishearteningly slow. Suspect lues or some focus of infection. A blood Wassermann at the initial visit may obviate later embarrassment, as may urinalysis, dental examination for apical abscesses, digital examination of the prostate, visual examination of the throat, trans-illumination of the paranasal sinuses, etc.

After the ulcer has healed, and while the scar is still young, it is wise to aid absorption of the scar by the continued use of hot moist compresses, plus dionin (ethyl morphine) in mercuric cyanide solution, and yellow oxide of mercury ointment with massage through the lid. The former of these medicines is somewhat irritant, and this action promotes absorption of scar tissue by the resulting increased flow of blood; the latter is minutely abrasive, and with the massage is believed to be beneficial. Potassium iodide by mouth is also worth while.

When absorption of the scar has proceeded to the end-point, and if the scar so obscures the pupil as to greatly obstruct vision, an optical iridectomy, preferably in the lower nasal quadrant, may improve the visual acuity considerably.

In conclusion, may I emphasize the importance of early and energetic therapy in every case of trauma to the cornea, with a view of promoting rapid healing without complications, in an effort to conserve vision.

Studies of Cevitamic Acid and Rheumatic Fever: II. Test of Prophylactic and Therapeutic Action of Cevitamic Acid.—Schultz observed two comparable groups of rheumatic children, one of them receiving daily doses of cevitamic acid at intervals during the later winter and early spring. As indicated by tests of capillary permeability, the development of subclinical scurvy was prevented in the treated group, but the incidence of active rheumatic fever was not favorably affected by this medication. The clinical manifestations of acute rheumatic fever were not demonstrably affected by the oral or intravenous administration of cevitamic acid over periods of several months.

CYCLOPROPANE ANESTHESIA*

R. Douglas Sanders, M. D.

Louisville.

In presenting this paper on cyclopropane anesthesia it is not my purpose to give a teaching outline of its administration. Such details of administration as are given, are included more for general interest and because they accentuate the differences from the methods used with other gaseous anesthetics.

My work with this agent has been entirely among private patients. The number, one hundred and fifteen, has not been sufficiently large to justify statistical analysis. Such experiences as I have had are recorded with the full realization that clinical observation may sometimes be fallacious. A good part of the facts set forth are based upon the experimental work of others and references to these are appended.

Let us first consider the chemistry and history of the use of cyclopropane.

The demonstration of the clinical advantages of ethylene by Luckhardt, Carter and Herb stimulated much research upon the anesthetic effects of the other hydrocarbon gases. An agent with which one could produce greater relaxation with ample oxygenation, but with the slightest possible toxic effect was desirable.

In 1929 Lucas and Henderson of Toronto noted certain cardiac irregularities in dogs they were anesthetizing with propylene. In a search for the cause of this effect they investigated cyclopropane an isomer of propylene and a possible contaminant of their laboratory samples. To their surprise this gas proved a better anesthetic than propylene. Following their report of these experiments Dr. Ralph Waters of the University of Wisconsin began to use cyclopropane clinically, having first familiarized himself with its action by further animal experimentation. Since that time several thousand anesthetics have been administered with this agent at the Wisconsin General Hospital and many more throughout the world. The literature upon its effects is already large.

Cyclopropane is the simplest cyclic hydrocarbon. Its density is 1.46 and molecular weight is 42.05. It is heavier than air. It is colorless, has a weakly ethylene-like odor and is non-irritating except in very high concentrations. It remains stable indefinitely when stored in steel cylinders as a liquid at 75 pounds pressure.

It is prepared by the reduction of an alcoholic solution of trimethylene bromide with metallic zinc. This expensive method of preparation accounts for its high cost which is now 30 to 35 cents a gallon.

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*Read before Jefferson County Medical Society, November 16, 1936.

It is very soluble in oil but only slightly so in water. In common with many other agents cyclopropane is inflammable in anesthetic concentrations, but because of the method of administration, this offers a very minor hazard. No case of fire or explosion with it has yet been recorded.

Technique of Administration

Cyclopropane cannot be economically administered by any other method than the completely closed one with absorption of carbon dioxide from the anesthetic atmosphere. This method which has been called the carbon-dioxide absorption technique is a rather involved study in itself and should be thoroughly mastered using familiar agents before beginning its use with cyclopropane. This technique, now quite widely used here and elsewhere was first used clinically by Dr. Waters and has been described in several periodicals since 1924.

The apparatus is a completely closed extension of the respiratory system, having interposed, between mask and rebreathing bag, a cannister of soda-lime. In breathing through this the carbon dioxide is removed from the anesthetic atmosphere. Anesthetic gases and oxygen are introduced into this apparatus in measured amounts from a gas machine with very sensitive flow meters. A constant supply of oxygen is maintained during the whole duration of the anesthetic at a rate corresponding to the metabolic need of the body, from 200 to 450 cc. per minute. Once anesthesia is produced of satisfactory degree, no more of the anesthetic agent is added except as is indicated to maintain the desired depth of narcosis.

Thus, by means of this apparatus, the patient continuously refuses the anesthetic atmosphere having available a constant supply of oxygen in the amount necessary to maintain life and having the carbon dioxide that his lungs excrete removed by the soda-lime.

Except when leakage occurs, anesthetic gases are not discharged into the air of the operating room.

The soda-lime in the cannister will become ineffective after six to ten hours use and require changing. It is necessary that the anesthetist be able to recognize the signs the patient exhibits when the soda-lime is becoming exhausted.

Many variations of the design of this apparatus are available from different sources. This one shown is the original, the simplest, and perhaps the most efficient.

With this technique loss of body heat and fluids are to a large extent reduced. Sweating is far less pronounced and moisture loss from breathing is almost nil. Breathing is very quiet because very little carbon dioxide is present in the apparatus.

Although it is a non-irritating gas, Cyclopropane is very potent having a potency quite comparable with chloroform and ether. Herein lies its greatest advantages and also its gravest danger.

It is capable of producing anesthesia in concentrations above 4 per cent, deep surgical narcosis being usually attained with concentrations of 15 to 20 per cent. Should one attempt to use the high concentrations with cyclopropane as are necessary with nitrous oxide and ethylene immediately disastrous results would ensue. Percentages of oxygen may thus be administered with it that will allow ample oxygenation of even the most seriously handicapped patient. Without premedication, as much as twice the average concentration of Cyclopropane must be used at times to attain the same degree of narcosis.

Pre-medication, therefore, is important but it requires less of it than with nitrous oxide or ethylene. (Morphine grains 1-8 to 1-6 and scopolamine grains 1-200 to 1-150, 1½ hours before the operation is the medication I usually use). Given in this amount and this early the respiratory depressing effect is usually over, but the sedative effect persists at the time of operation. No hard and fast rule can be made in this respect as it is far better to evaluate the patient's needs individually, and act accordingly.

When avertin is used as a basal narcosis, I do not use morphine and use only a minimal dose of 60-70 mgm of avertin per kilo of body weight. I prefer not to use barbiturates on the operative day, but use them freely to attain rest during the preceding night. Although Cyclopropane has no irritating qualities in anesthetic concentrations, many patients who have received no premedication have an increased flow of saliva during induction, which stops when anesthesia is effected.

In administration the mask is placed on the face secured by straps and enough oxygen is introduced into the system to accommodate the patient's respiratory excursion. A flow of 400 to 600 cc. per minute of Cyclopropane is then begun. This is continued for 1-2 to 3 minutes, the usual being 2 minutes. The patient has usually by this time beginning anesthesia. One then waits 3 or 4 minutes for complete distribution in the body and if anesthesia is then not profound enough introduces more Cyclopropane at the same rate for a much shorter period of time, usually 1-4 to 1 minute. This is followed by further waiting, but usually by this time surgical narcosis of the desired degree is obtained. A free airway must be maintained at all times so one usually inserts some form of mechanical airway after anesthesia becomes established; this is fully as important with cyclopropane as with other agents.

During induction and throughout the course of the anesthesia oxygen is being supplied to meet the metabolic need of the body.

During the period of maintenance additional Cyclopropane must usually be added at periods of from 10 to 20 minutes, in very small amounts (100 cc. approximately) because of unavoidable leaks in the mechanism and possibly a loss through diffusion from the patient. The patient's reactions must serve at all times as the indicator for any change in concentration of the anesthetic mixture.

It is this phase of administration that is the most difficult to judge and in which one is sometimes embarrassed by the patient making some movement. Though occasional unanticipated lightening of narcosis appears, return to deeper narcosis is easily and quickly accomplished. This source of trouble becomes very infrequent with added experience.

When the anesthetic is to be withdrawn, gradual lightening of narcosis is accomplished by adding air or oxygen to the mixture in the bag a few minutes before complete withdrawal. Thus, one avoids the occasional period of excitement that follows withdrawal suddenly from deep anesthesia.

The addition of air or oxygen in large amount is also practiced in the event the patient is accidentally too deeply anesthetized and the response is rather rapid.

The patient experiences one of the most rapid pleasant inductions available with an inhalation anesthetic. He rarely suffers from tinnitis or shortness of breath and has no memory of the smell of the gas. Very few patients have any excitement phase, and when it appears it is very short lived. Unpleasant dreams are extremely uncommon.

The signs of anesthesia are much the same as with other agents. The eye is quieter because of better oxygenation. The pupils remain unchanged usually, even in very deep narcosis. It is not, therefore, a dependable sign of depth.

The respiration becomes progressively quieter as anesthesia is deepened, and if overdosage is given the breathing stops before the heart shows depression.

In experimental use of high concentrations breathing becomes first more quiet, then a lag between diaphragmatic and costal breathing appears, then intercostal paralysis with diaphragmatic breathing alone, then cessation of respiration. Life has been maintained in experimental animals for some time after respiration has ceased by artificial ventilating the lungs and recovery has ensued when the anesthetic mixture was diluted with oxygen and further artificial respiration given.

Clinical Effects:

Relaxation is usually excellent but some few abdominal cases will require the addition of, or change to, ether. Those who use spinal chiefly will not always be satisfied with the relaxation. Those who use gases and ether chiefly will usually find it ample.

Breathing is very quiet, though occasionally a troublesome laryngeospasm developes when high concentrations are used.

Oxygenation is ample at all times.

The intestines maintain nearly normal tone and the uterus contracts fairly normally even under rather deep narcosis. There is no irritation to the respiratory tract.

Though the clotting time is not altered, bleeding of the capillary type seems slightly more pronounced in about half the cases. This offers no obstruction to rapid surgery in most instances. No wound hematomas have been seen that were ascribed to this cause.

Obstetric cases exhibit much less bleeding usually, because the uterus maintains a better tone.

Blood pressure is very slightly changed. A rise of 10-20 mm of mercury, occasionally even higher, is frequently seen shortly after induction in many cases and persists at this level until the anesthetic is withdrawn. Severe drops in blood pressure are rather uncommon.

Pulse rate is usually 10 to 20 beats per minute slower after anesthesia becomes established and rarely varies from this during the course of the operation.

Recovery is very rapid, less than 12 minutes as a rule. The patient awakens quietly without dizziness, or hangover. Delirium is seen rather rarely and is of short duration.

Vomiting once before complete return to consciousness very commonly occurs. After recovery of consciousness nausea and vomiting are much less than with ether.

The amount of post-operative nursing care needed due to the effects of the anesthetic is much less than with ether, being a matter of minutes rather than an hour or so.

Cardiac Arrhythmias determined by electro-cardiographic methods have been shown to be very common with all inhalation anesthetic agents. Cyclopropane differs somewhat in that it tends to cause more extra systoles. This is commonly seen while using high concentrations, usually disappearing when the concentration is reduced. Though demonstrable bad effects clinically from this source are lacking, some investigators have urged caution because of the demonstration of multiple focus ventricular extra systoles in some patients. This particular type of arrhythmia having been shown to be a precursor of ventricular fibrillation in a few laboratory animals.

In my experience occasional extra systoles appear more common than with other agents. Total irregularity for short periods I have observed three times. On two occasions with one patient and once with another. Each time the rhythm became regular when anesthesia was lightened. Both patients had definitely abnormal cardio vascular systems determined preoperatively. Both patients had perfectly normal convalescence.

Clinical laboratory studies have shown cyclopropane anesthesia to be without effect upon the liver function of patients with normal or damaged livers.

Except for causing urinary depression during anesthesia it has little effect on kidney function. Blood nonprotein nitrogen is not appreciably changed.

Blood sugar and carbon dioxide combining power of the blood are not appreciably altered in normal individuals or diabetics.

The white blood cell count is increased following anesthesia, the increase being chiefly of polymorphonuclear cells. The degree and duration of this change is somewhat similar to that seen after ether or ethylene has been used.

Clinical Utility

Almost any type of surgery may be done under cyclopropane anesthesia but its properties mark it out as being of particular value in certain kinds of work.

In chest surgery the advantages of high oxygen supply, quiet breathing and good relaxation with quick recovery are obvious.

If a deeply acting general anesthetic is necessary in an operation upon a patient with liver or kidney damage, this one may be used with reasonable safety.

Diabetics are not disturbed markedly by its action.

For short procedures of various sorts in robust individuals where relaxation is necessary it is an excellent agent. The marked tendency to make ambulant patients vomit must be considered.

Patients who have previously shown an idiosyncracy to ether apparently have no unusual effects from cyclopropane.

In abdominal surgery the relaxation is usually ample. The occasional failures to produce sufficient relaxation especially in robust individuals and for upper abdominal work will necessitate the addition of, or change to, ether. In this latter event cyclopropane serves as an excellent induction agent.

In operative obstetrics the relaxation, good oxygenation and slight effect on uterine contraction are of real advantage. The child cries almost immediately even when the mother is rather deeply anesthetized.

Brain, face, nose and throat work cannot be done without the use of intratracheal technique. Cyclopropane is, however, an excellent anesthesia for use by intratracheal methods.

It may be successfully used in thyroidectomies upon toxic patients. The high oxygen concentrations possible being of real advantage. Also because of these high percentages of oxygen it is possible to anesthetize safely many patients with various types of partial obstruction of the larynx and trachea.

As an adjuvant to nitrous oxide and ethylene it is very effective. It may also be used very effectively as a supplement to spinal anesthesia. In this instance a light degree of narcosis produces satisfactory relief from the distressing symptoms observed in some patients and also allows for hyper oxygenation.

Patients who have been subjected to very long procedures seem less depressed than after ether has been used.

Conclusion

Cyclopropane appears to be a valuable addition to the group of inhalation anesthetics. It has already gained for itself rather wide usage.

The men who have developed its clinical usage feel that even in the event of its universal acceptance it will not revolutionize inhalation anesthesia or completely displace the older agents now in use.

Therefore, the technical skill of the anesthetist, not the agent he may use, remains the prime factor for consideration in the administration of any anesthetic.

DISCUSSION

Joseph S. Parker: Dr. Sanders is to be commended for presenting to us his viewpoint and experiences and inviting our discussion of the subject of cyclopropane anesthesia. This comparatively new agent receives its well deserved share of discussion, both pro and con, in any group of surgeons or anesthetists. Many are enthusiastics about it and those in whom it has won disfavor seem to be in the minority. Dr. Sanders has covered this subject so thoroughly that I am at a loss to find anything to add and my own limited experience does not allow me to contradict any of his statements nor to criticize any portion of his technique.

The essayist has comfortably assured us that he has discovered no report of fire or explosion as a result of the use of this inflammable gas. Fortunately, for my own comfort and peace of mind, no report of explosion has come to my attention. However, I feel that we should not lose sight of the fact that cyclopropane is inflammable. The possibiliy of the ignition of cyclopropane within the closed apparatus is very remote, because of the high moisture content resulting from the rebreathing of the patient. It is probably necessary to exercise more care during the colder months of the year, particularly during induction; and the avoidance of leaks during the stage of maintainance. The operating rooms, I find, are usually hot and the humidity very low, which is ideal for the generation and discharge of static sparks.

For the sake of economy and also for lightening the plane of anesthesia when desired, the addition of various amounts of ethylene to a cyclopropane mixture has its value. I find, that as the operation progresses, a much lighter plane of anesthesia will carry this patient along satisfactorily. The addition of ethylene at this point accomplishes this purpose; compensates for leaks; substitutes a somewhat less toxic agent and as well lowers the cost of the anesthesia.

Provided a good color and ample ventilation are maintained, the place to be on the lookout for danger is from the heart, as brought to our attention through the pulse. The signal is a soft pulse, or an irregular pulse, which at times means fibrillation. This should be corrected and can usually be accomplished by addition of oxygen, thus lightening the anesthesia. If this fails or if relaxation is insufficient one may resort to ether by the open method.

Cyclopropane seems to have a definite place on the list of anesthetic agents now in use, and I think is here to stay until a better one is found.

P. K. Knoefel: I would like to emphasize a few points. Perhaps the best thing to be said for cyclopropane is that it must be used within a closed system. This is certainly the most physiological of all methods of administering general anesthetics. There is little reason why it should not be used for most of them. The advantage have been pointed out to you. The principal advantage of cyclopropane over the other kinds of anesthetic gases is its high potency. It will produce complete muscular relaxation in much lower concentration than will nitrous oxide or ethylene, and one may thus avoid anoxia. The chief danger is also this high potency and the amazing rapidity with which it will carry a patient through all stages of anesthesia. Cyclopropane is surely an agent only to be used by experienced anesthetists.

E. Douglas Sanders, (in closing): I was particularly pleased to have these gentlemen discuss my paper.

Dr. Knoefel has very modestly made no mention of the various research studies he has done in the field of anesthesia.

Dr. Parker has been using cyclopropane since 1934 and his experience with it has been rather extensive. It was of particular interest to me to learn that he frequenly maintains anesthesia with lighter acting agents. My cases with only a few exceptions have had cyclopropane and oxygen throughout, without addition of other agents.

The many and various technical details of the administration of this anesthetic agent vary somewhat with different anesthetists, but in essential features they are much the same. I have avoided any detailed mention of them as they are the concern of anesthetists chiefly and therefore do not come within the scope of this paper.

EFFECTS OF THE RECENT FLOOD ON LOUISVILLE'S HEALTH*

HUGH R. LEAVELL, M. D., Director of Health, Louisville.

A flood causes immense property damage obvious to everyone. There is also definite danger to life which even the man in the street can see, from drowning; explosions, fires and asphyxiation due to defective gas lines and from exposure. Other less evident dangers to life, are perhaps really greater in populous areas. Such dangers come from paralysis of water and food supplies and sanitary facilities, in the form of outbreaks of typhoid fever and other enteric disease. Associated with unusual crowding of refugees epidemics are also to be feared, such as meningitis, diphtheria, small-pox, etc.

Deaths from drowning, exposure and other obvious causes may be minimized by prompt and efficient evacuation of flooded areas; and provision of proper medical services in the concentration centers for refugees. Application of proven public health measures may be expected to keep epidemic outbreaks under control.

At this time, it is interesting to compute the number of deaths in Louisville traceable to the flood, even though all the reports may not be quite complete. For the four weeks during and immediately following the flood, there was an average of 20 deaths a week in excess of the rate prevailing immediately prior to the flood. Another method of computation is perhaps valid. Deaths before and during the flood period may be divided into two groups:

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*Read before Jefferson County Medical Society, March 1, 1937.

1. Deaths which might be attributable to flood, such as drowning, exposure, exhaustion, asphyxiation, explosions due to escaping gas, etc. To this should probably be added the excess of deaths from pneumonia and heart disease over the number of deaths from these causes prior to the flood.

2. Deaths not related to flood such as cancer, nephritis, etc. That this division is valid is borne out by the weekly average of deaths in this second group—47 prior to the flood, and 48 during the flood period.

Using this method of apportionment, the following summary is obtained for the 4-week flood period.

Cause of Death	Deaths
Drowning	6
Exposure	10
Asphyxiation	2
Burns and Explosions (Escaping gas)	15
Bacillary Dysentery	1
Pneumonia (all types) in excess of average prevailing 2 weeks before flood	28
Heart Disease (all types) in excess of average prevailing 2 weeks before flood	28
Total deaths attributable to flood	90

It is fair to say that many patients who died from heart disease or pneumonia during the flood were in poor condition prior to that time, and would have died during the next few months even had the flood not come.

There have been no cases of typhoid fever, in the city, and only one more case of diphtheria than during the comparable period in 1936—and 1936 marked probably the lowest diphtheria rate in Louisville's history. No smallpox appeared, and two deaths from meningococcus meningitis (untreated) have unfortunately not been remarkable during the past two years, as this disease has been endemic here.

Considering the facts that the entire population of the city was affected either by flood or by refugee concentration centers; and all by the failure of ordinary sanitary facilities, it is evident that the mortality and morbidity are less than anticipated. The widespread epidemic of influenza and the abnormal incidence of pneumonia prevailing before the flood were also factors which many of us expected to produce a much graver situation.

One can account for such an excellent showing only by pointing to the untiring work done by every doctor, dentist, nurse and medical student in the city, assisted by those who so graciously came to us from the outside. Our doctors threw themselves wholeheartedly into the task with no thought of reward, and no complaint about the duty assigned them. No time was lost in getting the community vaccinated against typhoid, and in caring for those refugees who required medical attention. Those doctors who found themselves marooned did not wait for instructions, but took hold of whatever situation presented itself, using whatever supplies and equipment were at hand or could be obtained under the difficult circumstances. The various hospital staffs, not the least among which were those of the City Hospital and the Emergency Hospitals augmented by volunteers, did a service under obstacles, that was almost unbelievable.

The Jefferson County Medical Society may rightfully take the major credit for keeping the death rate low and eliminating epidemics. We in Louisville are proud of our medical profession and of their unselfish devotion. I wish time permitted the individual tributes which are due; I can only thank you in the name of a grateful city.

EFFECTS OF RECENT FLOOD ON JEFFERSON COUNTY'S HEALTH*

J. D. Trawick, M. D.

County Health Officer, Louisville.

"Unexpected emergencies develop the weak points as well as the strong in Institutions as well as individuals."

When the waters, continuing to rise with alarming persistence began to drive frightened refugees into the Armory, organization of emergency measures to receive the ever increasing crowds demanded immediate action. As the people were herded into the Armory, they passed by a registration desk, thence by the immunization teams under Dr. Donald Dollar and his splendid corps of helpers, thence to the cots prepared for them.

In anticipation of the inevitable crowding along the main highways out into the County, centers had been established at strategic points, such as St. Matthews, Buechel, Okla-lona, Fairdale, St. Helens. Chief of these and particularly outstanding because of the efficiency of management was the Center at St. Matthews under Dr. Smock.

Before the refugees had reached the Highlands, it was anticipated that perhaps 150,000 people would inevitably have to be provided for in the areas outside the city limits.

To meet this three times more than the usual population load, conferences, many long and serious were held with the Director of State Flood Relief, the Commissioner of Health, with notable representatives from the

U. S. Public Health Service present, and notification was given that a Unit from the University of Michigan was to be assigned to this County Health Department.

The meeting with Dr. Nathan Sinai, Professor of Public Health in that great University, was a memorable occasion. He was immediately appointed Associate Health Officer of Jefferson County and vested with full authority by the Commissioner. The association and intimate contact with this splendid friend from Ann Arbor will remain with me always a satisfying memory.

His excellent group of eleven doctors and eleven nurses, all trained in Public Health, with Miss Herringshaw as Supervisor of nurses, are permanently our own personnel. The strengthening of our medical and nursing personnel by this added unit was matched by about 25 sanitary assistants under E. Sherman Chase of Boston, who was assigned to us and made our Chief Sanitary Engineer by the Commissioner.

Thus was the weakest point in our County Health organization strengthened by the magnificent reinforcement of this excellent gentleman, and skilled engineer, whom we shall always appreciate as a friend in need. Thus had the State Health Commissioner come to our rescue. We are profoundly grateful.

Out of the debris and the tragedy of loss in the more than 66 flooded square miles of the County, has arisen a permanently augmented Health Department.

I am permitted authoritatively to announce to you tonight that through the instrumentality of the State Board of Health, Jefferson County Health Department will receive soon a full time Assistant Health Officer, a Sanitary Engineer, Assistant Sanitary Inspector, extra Public Health Nurses and a trained bookkeeper stenographer, all to increase our force and efficiency and to help us really meet the need of an enlarged competent Public Health Program in this metropolitan County of Jefferson.

Congenital Lung Cysts.—Adamson states that the clinical recognition of congenital cystic lung has become possible only since roentgenography and bronchoscopy have come into common use. Antemortem diagnosis has been made only within the last ten years. The condition has ceased to be a mere pathologic curisity and has become a clinical entity of importance. It must be kept constantly in mind when making a differential diagnosis in chronic pulmonary disease of any sort. Interest is enhanced by the fact that almost any chronic condition of the lung may be simulated.

THE TREATMENT OF PERITONITIS FROM THE STANDPOINT OF INTESTINAL OBSTRUCTION*

JOHN P. GLENN, M. D.

Russellville.

I will deal entirely with the peritonitis that follows ruptured appendix since that is the most common etiological agent with which we have to deal. For when the peritoneal cavity becomes contaminated from a ruptured appendix peritonitis develops and intestinal obstruction which may be mechanical or paralytic ileus follows. There are varying degrees of ileus but it will always develop and progress comparable to the severity of the etiological factor.

To treat any disease intelligently it is necessary to understand the mechanism by which death is produced. Death from peritonitis may result from embolism, pneumonia, empyema, septicemia, etc., but these factors may cause death from many conditions and may be classed as indirect. The factors that produce death directly attributable to peritonitis are paralytic ileus and mechanical obstruction with their sequelae of overwhelming toxemia, dehydration and acidosis. Therefore to manage generalized peritonitis successfully efforts to counter-act the effects of ileus must be made.

Let us first consider the pathological and biochemical changes that are associated with ileus. In paralytic ileus the obstruction is caused by a loss of motor function in the bowel wall which results in the accumulation of gas and intestinal contents. When such a condition exists the normal secretions of the intestinal tract increase and become definitely toxic producing marked distention and consequent disintegration of the intestinal wall which in turn allows the escape of toxins into the peritoneal cavity where absorption rapidly takes place. In mechanical obstruction the reaction is proximal to the point of occlusion. Though it is marked at first by violent peristalsis, with the accumulation of gas and fluids, paralysis replaces peristaltic activity and the end results are the same.

As ileus progresses gas steadily accumulates until the stomach as well as the intestine is involved. Hiccough and vomiting ensue. First the vomitus is composed of stomach contents, later quantities of bile are regurgitated and finally the contents of the jejunum and ileum, fecal in odor and appearance are expelled. As a result of the vomiting large amounts of the chlorides, chiefly sodium choride and hydrochloric acid are lost. This loss of sodium chloride ions as shown by Gamble and Ross in 1925 results in the inability of the body tissue to retain water, thereby producing dehydration. As vomiting continues the stomach becomes an excretory organ extracting chlorides from the blood. The loss of the hydrochloric acid radical is replaced by the bicarbonates and alkylosis is the result. There is also an as yet unexplained increase in the nonprotein and urea nitrogen content of the blood.

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*Read before the Third District Medical Society.

When we are confronted with a case showing the signs of generalized peritonitis, pain, vomiting, hiccough, marked distention, dehydration, etc., which are in the final analysis the classical symptoms of intestinal obstruction, what will be our course of procedure? Is it wise to open the abdomen, try to remove an already ruptured appendix at once and attempt to drain the peritoneal cavity? Or is it wiser to direct our efforts toward the relief of the ileus and its resulting toxemia?

To operate immediately is to aggravate the already poor general condition of the patient and still leave the ileus and toxemia to be handled. To expect a drain tube placed in the right lower quadrant to drain the entire abdominal cavity is anatomically inconceivable. There is abundant experimental evidence that drainage material placed in the peritoneal cavity does not drain the peritoneum. Yates as early as 1905 found that in every instance the drains are rapidly sealed off.

Certainly hard and fast rules can not be supported and the all important fact that each case is an individual problem must not be ignored. However there seems to be statistical evidence that in the deferred operation. the still too high mortality rate is lowered

Stanton makes the following report:

The table compiled by Stanton we see a reduction in the mortality rate of 33.5 per cent when operation was deferred. From the experience of LeGrand Guerry we find an advantage of 16.36 per cent in the delayed operation over both immediate operation and simple drainage. With an understanding that death is the result of intestinal obstruction rather than peritonitis per se and that these patients on admission are very poor surgical risks, immediate treatment of ileus and toxemia constitutes the emergency. This treatment may be grouped under three headings:

1. Prevention by early removal of the cause.
2. Treatment of the toxemia.
3. Treatment of the ileus.

I shall not go into a discussion of prevention since this paper is concerned with those late cases where generalized peritonitis already exists.

To overcome toxemia the acid base balance must be restored, the loss of fluids must be compensated for, and resistance to the effects of toxins must be raised. Normal saline and glucose should be given in sufficient quantity to get a daily urinary output of 1,000 to 1,500 cc. This will usually require 4-6000 cc per 24 hours. Small frequently repeated blood transfusions of 150 to 200 cc. furnish a most satisfactory method of raising the patient's resistance to infection.

There is a drop in blood calcium which is usually fatal if it falls below three milligrams per 100 cc. The calcium content of the blood must be increased either by administering calcium intravenously or by giving parathyroid extract.

The objectives of the treatment of ileus are absolute rest, decompression and drainage. To secure absolute rest, it is imperative

	Cases	Deaths	Mortality
Frank acute appendicitis	1004	40	3.9
Clinical peritonitis on admission	113	20	17.69
Of the 113 cases there were:			
Immediate operation	31	13	42.0
Delayed operation	82	7	8.5

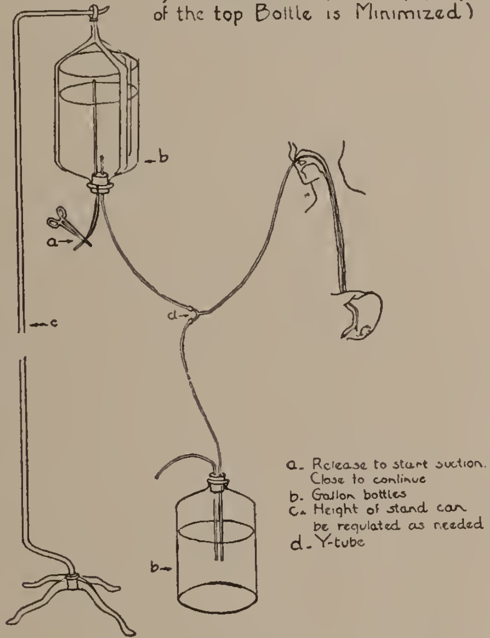
LeGrand Guerry submits equally con-vincing statistics:

Ruptured-diffuse peritonitis on admission	243		
Immediate operation	94	10	10.64
Deferred operation	137	2	1.46
Ruptured-in extremis-appendix not removed—Drainage only	12	3	25.00

that nothing be given by mouth, not even water. Frequent and large doses of morphine should be given as it actually improves the tonus of the bowel. Spinal anesthesia certainly gives temporary rest and in some cases brings permanent relief. Decompression and drainage may be accomplished by means of continuous duodenal drainage or by enterostomy. Enterostomy will only drain a small segment of the intestine unless active peristalsis exists and it involves opening the abdomen. Since it can not be depended upon to drain enough of the intestinal tract to overcome the ileus, its disadvantages outweigh its values as a routine procedure.

Recently it has been shown that intestinal obstruction can be treated in a highly satisfactory manner with the minimum hazard to the patient by the suction method. This procedure is applicable to both paralytic ileus and mechanical intestinal obstruction which is important because it is clinically difficult to differentiate between the two conditions. Wilkie found in 1928 that in a series of post mortems on patients dying the eighth to tenth day after operation that had been diagnosed peritonitis or paralytic ileus, were in reality cases of mechanical intestinal obstruction.

CONTINOUS SUCTION APPARATUS
(A Modification of the Wangensteen Apparatus by which the Rapid Emptying of the top Bottle is Minimized)


b
a
c
d
b
a. Release to start suction. Close to continue
b. Gallon bottles
c. Height of stand can be regulated as needed
d. Y-tube

Owen H. Wangensteen has given the most conclusive evidence of the value of continuous suction to the treatment of intestinal obstruction. By this method he was able to secure sufficient decompression to permit more safely direct operative procedure and in several cases was able to control the intestinal obstruction without any surgical intervention.

An expensive and complicated apparatus is not required. All that is necessary is to place a nasal catheter in the stomach and connect it by means of a Y-tube to water bottles arranged in such a manner as to produce suction. Its simplicity and safety of application gives it a decided advantage over enterostomy to accomplish decompression. With a knowledge of the fact that decompression may be accomplished by this method, its efficiency as a preoperative procedure in the ileus associated with peritonitis can readily be seen.

I have consistently treated generalized peritonitis as a problem of intestinal obstruction and in twenty-nine cases have had but two deaths. In the first seventeen I operated immediately on admission and did an enterostomy at the same time. In watching the clinical course of these patients I noted that in a number there was a lapse of thirty-six to seventy-two hours before adequate drainage was established. Immediately after operation the patient's general condition was at its worst. Both deaths occurred in this interval. I felt that the lowering of the patient's resistance to the infection and the shock incident to the operation were not compensated for by the results obtained because the enterostomy frequently did not relieve the obstruction quickly or effectively enough to help the patient through the period of greatest danger, and that the peritonitis was not checked by the absence of the original focus of infection. In the last twelve cases I have treated the obstruction preoperatively by the suction method and have been able to get the patients in a much better shape to stand subsequent operation.

Conclusion

Where acute appendicitis is even suspected immediate operation is indicated for it is far better to remove an innocent appendix than by temporizing to allow the dreaded condition we have been discussing to develop.

I do not recommend delay in early rupture or the period of contamination as operation at this time may prevent the development of peritonitis.

Nor do I advocate postponement of surgery where a localized abscess has already formed for an undrained abscess may rupture and reinfect the peritoneal cavity.

I do believe that in those late cases where generalized peritonitis has already developed and intestinal obstruction dominates the picture, it is advantageous to delay operation and to treat the obstruction preoperatively by the suction method.

INTERESTING PROBLEMS IN BRONCHOSCOPY AND ESOPHAGOSTOMY*

J. S. Bumgardner, M. D.

Louisville.

This paper will not deal with technique but is an effort to bring to you some problems of diagnosis and end results obtained in endoscopy.

In recent years the widening of the field of Bronchoscopy for disease of other than foreign body origin has promoted extensive literature and research on the subject; and in the present era Bronchoscopy and Esophagostomy occupy a secure place in diagnostic medicine. It is the effort of the writer to associate endoscopy with some problems of diagnosis and treatment.

Foreign bodies in the food or air passages are often considered the chief problems of the endoscopists; but when the relative small percentage of the work in the larger clinics is foreign bodies, it is readily seen that diagnosis and treatment of disease is a major factor.

Diagnosis of foreign bodies should be uppermost in the minds of the clinicians because they are the first to see these cases. History is first in importance; physical signs and X-ray pictures make up a complete study. I recently saw an adult with a foreign body in the right bronchus that had resided there six months as indicated by a concise history. The patient with persistent cough and expectoration had consulted a physician but was advised that the possibility of the presence of a foreign body, as he described, was rather remote, and thus had existed for six months. After removal of the foreign body, his cough and expectoration subsided within ten days. The history in this incident was most valuable in diagnosis. The physical signs due to long standing condition were hard to interpret, and X-ray studies did not show the vegetable foreign body.

Foreign bodies of the esophagus will be more frequent with the repeal of prohibition and the continuation of ill fitting artificial dentures. A patient with dysphagia should be given every consideration. It is well to be tempted to force the offending bone, or what not, down or more likely through the delicate gullet with a stomach tube, finger, or some other improvised blind instrument because mediastinitis constitutes a severe complication. A doctor referred a patient to me at nine o'clock one night that gave the history of choking on a gristle of beef at lunch. During the course of the afternoon she had seen three doctors. The first used finger manipulation, the second a stomach tube, the third called me. The patient was sent to the City Hospital and on passing an esophagoscope, the upper esophagus was much inflamed and the meat tightly fixed in the region of the crico-pharyngeus muscle. It took six minutes to remove it. The chance methods work sometimes, but are they worth it?

Pulmonary symptoms may be due to overlooked esophageal disease and are of particular importance. Obstruction with disease extension (malignancy) and compression stenosis with reflex symptoms may excite unexplained cough by disease limited to the esophagus. When in search of obscure causes of cough, the Roentgen ray and the esophagoscope should not be overlooked.

Bronchoscopy in disease has its advantages in the employment of methods of direct examination which can be safely applied and are being extensively utilized in diagnosis. The extent of its use as a diagnostic aid in a great part depends on the clinician's knowledge of its indication. It is fitting to say here that every patient with cough or expectoration, if not proved tuberculosis, should receive a diagnostic bronchoscopy. The evidence of obstructive atelectasis, obstructive emphysema, or a wheeze, are cardinal indications for bronchoscopy.

Post-operative pulmonary atelectasis is being more frequently diagnosed, and the duration of the post-operative condition is no contra-indication to bronchoscopy, but owing to appropriate measures taken by surgeons and anesthetists, it is not common. The acquired form of atelectasis which occurs in bronchial foreign bodies, asthma, pneumonia, tuberculosis, and the above mentioned post-operative is obstructive and can in many instances be relieved bronchoscopically. Obstructive emphysema may be produced by conditions other than foreign bodies, but foreign bodies are by far the most common cause.

All of the peripheral parts of the lung are emptied by the tussive squeeze, that is, the compression of the lung during cough. According to Drs. Chevalier and Chevalier L. Jackson, the tussive squeeze is the most powerful factor of all in natural peroral drainage. This, however, is the factor that is often considered least of all in these cases where drainage is desired. Thus it is necessary for bronchoscopy to be done without general anesthesia or sedation sufficient to abolish the cough reflex.

That the bronchoscope renders a service in the diagnosis of bronchiectasis is now accepted. Obviously, bronchoscopy does not cure bronchiectasis, neither does postural drainage. Dr. Louis H. Clerf makes the statement that he is convinced that the medical profession, as a whole does not fully appreciate the serious nature of bronchiectasis. There are several things to be determined before the plan of treatment can be outlined. These cases often offer unexplained symptoms, sometimes referable to foreign bodies, to obstruction, or to hemoptysis, that have led to a clinical diagnosis of tuberculosis. It is first necessary to determine if bronchiectasis is present, then to ascertain if one or more lobes are involved. Obstructive bronchiectasis is more often unilateral while that associated with nasal accessory sinuses is commonly bilateral. Iodized oil has contributed much as an aid in diagnosis to the roentgenologist. Bronchoscopy is of value in removing local causes of obstruction and in promoting drainage that aids in preventing progression of the disease. Surgery is indicated when a lobectomy can be instituted and is an accepted plan of treatment.

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*Read before the Kentucky State Medical Association at Paducah, October 5, 6, 7, 8, 1936.

Pulmonary abscesses are associated with a rather high mortality. The end results are dependent on early diagnosis and instituted treatment. Bronchoscopic drainage offers good prognoses in many of these cases when instituted early. Temperature is not a contra-indication to bronchoscopy because often the temperature will return to normal following one or two treatments. Most of the cases of lung abscesses that come to the Bronchoscopic Clinic are those that have not responded to medical treatment and additional measures are indicated. Bronchoscopic treatment in these cases is a part of the conservative treatment. Sometimes difficult points of diagnosis are decided following bronchoscopy. A patient, having had a tonsillectomy eight weeks previously, was admitted to the Bronchoscopic Clinic with a history of cough and expectoration of two weeks duration and a clinical diagnosis of lung abscess. Sputum was negative for tuberculosis bacilli, and X-ray showed an area in the right upper lobe suggestive of an abscess. The material aspirated from right upper lobe at bronchoscopy was reported to contain tuberculosis bacilli. Curiously demonstrable foreign bodies in the bronchus are not commonly complicated by the development of abscess.

Tuberculosis is not a contra-indication to bronchoscopy when the patient is in physical condition to stand a mild surgical procedure. Under these cases there are two groups of problems: the case of proved tuberculosis that develops certain symptoms requiring investigation, and the case presenting undiagnosed problems suggestive of tuberculosis. Under the first group I recently saw a patient with a wheeze and positive sputum on which artificial pneumothorax had been instituted on the left but it was impossible to collapse the lung completely. X-ray showed moderate tuberculosis and suggestive obstructive atelectasis in upper lobe. Bronchoscopy revealed a tuberculoma almost obstructing the main left bronchus. Removal of part of the tumor relieved the wheeze and pneumothorax was established with negative sputum. The other group is represented by a boy, age 16, with cough and negative sputum, and X-ray appearance of atelectasis right lower lobe. Bronchoscopy showed granulation tissue obstructing the lower lobe bronchus at bifurcation of middle lobe. Removal of granulation produced aeration of lower lobe.

Bronchoscopy in no connection, is of more value than in the early diagnosis of bronchial carcinoma. For years Dr. Chevalier Jackson has emphasized the diagnostic possibilities of the bronchoscope as an aid to the thoracic surgeon in the early diagnosis of endobronchial neoplasms. In recent literature more and more of these cases are being reported and, with pneumonectomy being successfully performed, no doubt these cases are to be offered a better prognosis. Since it is the concensus of opinion that 75 to 90 per cent of the cases are bronchial in origin, bronchoscopic biopsy will give a definite diagnosis in a relatively large per cent of these cases.

This paper would not be complete without reference to cicatricial stenosis of the esophagus. The accidental swallowing of lye is the most frequent cause of cicatricial stenosis. These cases offer good prognosis if proper care and treatment are carried out. Rapid methods of any kind are dangerous. Gastrostomy aids in the treatment, avoiding dehydration and putting the esophagus at rest. Retrograde bougies have proved most successful in these cases for me, making a safer procedure and shortening the period of treatment somewhat.

In conclusion, bronchoscopy and esophagostomy offer many interesting problems. They are aids in diagnosis and constitute well founded methods of treatment. The writer has endeavored to bring before you a few facts in the fields of bronchoscopy and esophagostomy, hoping they may prove helpful.

DISUSSION

Paul Turner, Louisville: Foreign body elimination from the bronchial tree is what is generally thought of when we say bronchoscopy, but I want to tell you that the removal of foreign bodies from the trachea and the bronchi constitutes only two per cent of the indications for bronchoscopy in the trachea and bronchi. There is a tremendous number of indications and as time goes on bronchoscopy undoubtedly will be something that will be done very much more than it is at the present time.

These bronchoscopists are self-sacrificing individuals. I know, because when I priced the instruments for the installation of our bronchoscopic clinic at the Hazelwood Sanatorium, I found that the instruments cost a thousand dollars, to say nothing of the table. We have had the only bronchoscopic table in the State for some considerable time, but the addition of all these special instruments is something that not everybody can get and we have thought it highly necessary to get them so you men all over the State will have that clinic available at any time for these obscure conditions in the chest that so often are passed up when bronchoscopy can clear up the whole condition. Our regular rate at the Sanatorium is $2.85 a day; that covers everything. If some of your patients haven't the money we will take them in for nothing, so there is no excuse for these patients with obscure conditions not having the benefit of bronchoscopy.

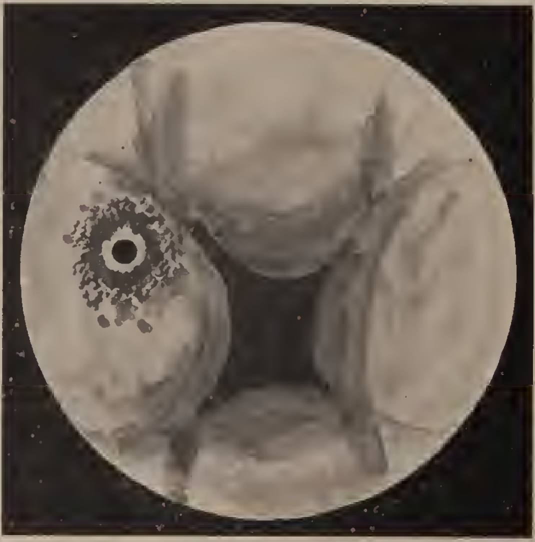
When I start talking about this thing it is hard to quit because we run into so many interesting conditions as Dr. Bumgardner has shown. Such as obstructive atelectasis, different types of tumors, etc.

I want to show just one slide. This represents a case that came in with profuse hemorrhage. The picture shows no sign of tuberculosis in the chest; there was no evidence of disease by physical examination, but the patient and a pain in the chest that ran right straight through. He wheezed and had very severe hemorrhages. You notice there is no occlusion, nothing in the chest that would show there was anything wrong at all of a pathological nature. First we put lipiodol in there. You can see a little of it in the left side. That little patch out there shows lipiodol entered that horizontal bronchus, but it did not go down in the right descending bronchus; therefore, we felt that was probably blocked.

C. E. Purcell, Paducah: Along about 1900 when I was a medical student, there were a few sporadic reports in the papers and journals of the removal of foreign bodies from the air and food passages. One of the first was Dr. Coolidge of Boston and later on Dr. E. Fletcher Ingals of Chicago. Being fresh in school I was very much interested in these reports, of course. I have gone through the things up to the present time, and I am pleased to say that I have seen bronchoscopy develop from its swaddling clothes into the recognized place it has in the profession now. Along about 1903 and 1904 still more reports came out of the value and efficiency of endoscopy. It was reported at that time that anywhere from 90 to 97 per cent of foreign bodies in the air passages caused death. At the present time I think the percentage is down probably as low as two per cent.

I was talking to Dr. Irvin Abell last night, and he told me that years ago before we had endoscopy he did a great many surgical operations for the removal of foreign bodies, in the upper esophagus and trachea, and he said in practically every case there was mortality, and especially so if infection had already set up, and he was pleased that this part of surgery had been taken care of by the generally recognized specialty of endoscopy.

Dr. Oscar Miller told me yesterday that he could not practice his profession without the aid of endoscopy, that many points in prognosis could only be cleared up by endoscopic examination. You can see what that means to the medical profession when such men as Dr. Miller and Dr. Abell recognize the importance of this.



Enlarged endoscopic view of the esophagus, showing a wound in the wall.

Before we get the full support of the medical profession we have to establish two things. One is that bronchoscopy is a natural thing, not only in the removal of foreign bodies, but it is accurate as a means of diagnosis, and the second thing is that we have to convince the medical profession that it is a safe procedure to carry on a patient. In support of these two ideas I have here an endoscopic view of the esophagus. The black place in the center represents the lumen of the esophagus, and the radiating points are the folds of the esophageal walls. You will notice a contrast in the mucosa of the esophagus compared to the trauma around the black spot which represents an opening in the esophagus or a wound in the esophageal wall. You see the inflammatory reaction surrounding the wound in the esophageal wall. The history of that case was definitely that of a foreign body. A man had swallowed a chicken bone.

He had all the symptoms of difficult swallowing, bloody secretions, and inability to swallow without great pain. X-ray was negative. We did not feel justified in passing the esophagoscope from the X-ray findings and from the history, so we waited four or five days and the symptoms persisted—difficulty in swallowing, with pain and bloody secretions. We entered the esophagoscope and that is the condition we found. It was a very simple matter to touch this wound up with silver nitrate or some solution, and the man made a prompt recovery.

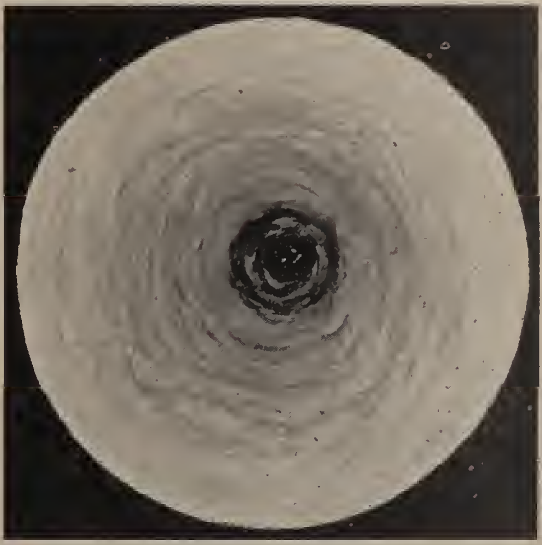
I have tried here to represent another accurate means of diagnosis. I have tried to represent here a peanut in a bronchus. This is an enlargement to make it as concrete as possible. You will notice on the slide here the bronchial walls. You must take into consideration that is only one picture that you would see in looking through the bronchoscope. This is the position of the lumen, and it is expanded after the intake of air. Dr. Bumgardner will tell you that the bronchi will expand and collapse with inspiration and expiration.

There is another accurate means of diagnosis here, and that is it is very important to have a space like this in order to get your forceps in. It would be tragic to attempt to put your forceps here. All you have to do is to wait a minute, the patient takes an inspiration, the bronchial walls will dilate and open, and that is the time to take hold of a foreign body.

Enlarged endoscopic view, showing a peanut tightly wedged into the lumen of the bronchus

The next is supposed to represent a foreign body in the bronchus; it is a tooth. In the center I have tried to show a tooth that was dislodged during an operation of tonsillectomy, and dropped into the bronchus. This showed very plainly in the X-ray. The child was in a serious condition which prevailed at the tme of bronchoscopy. Owing to recent tonsillectomy with ether and a lung abscess, I worked about ten minutes, without success. The whole thing filled up with pus and other secretions, and we deemed it advisable to postpone the operation. This conclusion was a unanimous opinion of all doctors present. Unfortunatey, probably fortunately for me, the folks stampeded and went to a big city and bronchoscopy was done without result on two occasions. Later on the child went to another famous clinic and two bronchoscopics were done without success. The foreign body was still there. Eventually the tooth was removed through a resection of the rib. There is the tooth; there is the inflammatory reaction all around; there is the bronchial wall.

Now, what are the lessons to be learned from this experience? It shows conclusively that it is a safe procedure in trained hands, and that five bronchoscopies were done by three different men with absolutely no harm to the child.


Enlarged endoscopic view showing a foreign body (tooth), in the inferior lobe bronchus, with inflammatory reaction surrounding the foreign body.

Moreover, it shows that bronchoscopy is a difficult operation, even in skilled hands, and it still further shows that even the "big boys" have their troubles and woes.

This particular case of bronchoscopy was the means of proper diagnosis and independent of the X-ray. Now, therefore, in conclusion may I urge the members of the profession who believe that bronchoscopy is dangerous and not accurate and that results are largely a matter of chance and good luck, that they lay aside this idea and visit some trained endoscopist for a different opinion and conclusion. Also, may I suggest that bronchoscopy today is not what it was thirty-five years ago. Endoscopy, of course, had to develop from the cut and try plan. I am delighted that this specialty receives the endorsement that it has everywhere, where scientific medicine is practiced.

COMPLICATIONS OF DUODENAL ULCER DEMANDING OPERATION

Malcom Thompson, M. D., F. A. C. S.

Louisville.

The important and frequent complications of duodenal ulcer are hemorrhage, obstruction, perforation and chronicity. Obstruction, perforation and chronicity nearly always require some form of operative procedure. Hemorrhage alone is rarely an indication for operation. A few with massive hemorrhage will die before they can be gotten in condition for operation. The majority will respond to medical treatment and the decision for operation depends upon the complete clinical picture and not upon the single symptom of bleeding. Balfour has rather tersely expressed the problem of treating copious hemorrhage with operation by stating that the mortality from the operation in most cases is likely to be greater than the mortality from the hemorrhage.

Three cases which illustrate the three complications usually requiring operation are here presented. The first case is that of a man, F. G. B., age seventy, who was admitted to St. Joseph's Infirmary in December, 1935. His history was that of duodenal ulcer extending over a period of many years. He had had several varieties of medical treatment a number of which had given him relief for varying periods of time. In the fall of 1935 he began to have severe postprandial pain in the upper abdomen and no form of medical treatment relieved the pain. X-ray examination upon December 12, 1935 revealed a deformity of the duodenum characteristic of ulcer. In addition to the ulcer he had multiple diverticula of the colon, hypertensive arteriosclerotic cardiac disease, dilatation of the ascending aorta, and arthritis of numerous joints. There was considerable tenderness over the duodenum and some slight tenderness over the sigmoid.

Because of his age and associated complications any form of radical operation such as gastrectomy or pyloroplasty seemed too extensive. Consequently continuous venoclysis of 5 per cent glucose was started in the right median basilic vein. Fluids and food by mouth were completely withheld. Heat was applied to the abdomen. Within the first few days an occasional dose of sedative was given. Six hours after the beginning of the treatment the pain in the upper abdomen began to abate and at the end of twelve hours disappeared not to return. Venoclysis in the same vein was continued for nine days. It was planned to administer the glucose for two weeks but he was so much better at the end of nine days that no attempt was made to give it to him in another vein. A number of enemata were given during his stay in the hospital. After nine days of venoclysis he was placed on a residue free diet which he has observed consistently. Since leaving the Infirmary he has been almost entirely free from abdominal pain and in comparatively good health.

An interesting observation was the effect of treatment upon his tongue and breath. Upon his admission to the hospital he had a deeply coated tongue which he said had been present for years and in addition a very foul breath. With the venoclysis the coating of the tongue cleared up completely as did the foul odor to his breath. After leaving the hospital a mild degree of oral sepsis was corrected by his dentist.

The second patient was that of a lady, Mrs. J. H. K., fifty-five years of age, who was admitted to the Baptist Hospital in May, 1935 with the diagnosis of acute mechanical intestinal obstruction probably due to an internal hernia. Consequently the patient's abdomen was opened as an emergency procedure. Upon opening the abdomen an enormously dilated stomach was found, the cause of the dilatation being complete obstruction of the pylorus. The pylorus was occupied by a firm mass the size of a large lemon. The mass was freely movable and the liver was free from nodules. There were a few enlarged lymph nodes along the lesser curvature. Because of the size of the stomach posterior gastroenterostomy was technically difficult so an anterior gastroenterostomy was performed.

A large opening was made between the most dependent portion of the stomach and the first portion of the jejunum, care being exercised to see that the transverse colon made no drag upon the jejunum. It did not seem necessary to do an enterostomy so none was performed. Convalescence for the first few days was marred by frequent vomiting. This responded to gastric siphonage following which her recovery was uneventful.

She went home and six weeks later returned to the hospital for a proposed resection of the pylorus. At operation the pylorus appeared and felt normal and all that remained to signify previous trouble was a large healed scar in the anterior wall of the duodenum near the pyloric ring. Consequently no further operative procedure was performed. The abdomen was closed and she has had no further trouble to this date. She has followed a low residue diet and has gained over thirty pounds in weight.

The third patient was a man, Mr. H. E.

N., sixty-one years of age, who was admitted to the Baptist Hospital in July, 1936 with a diagnosis of acutely perforated duodenal ulcer. Ten years previously he had had a gastroenterostomy for the ulcer which had been followed by a long period of relief. Eight months prior to this admission he had had a recurrence of his symptoms and an X-ray examination at that time showed the old duodenal ulcer with an additional small ulcer in the jejunum near the gastroenterostomy opening. Some interesting features of his history were: First, the perforation occurred while he was asleep. Second, when seen at his home he was sitting upon a stool practically motionless and had been so for almost two hours. This illustrates a finding of importance in making a differential diagnosis, namely, that a patient with acute cholecystitis tosses about in bed whereas one with an acutely perforated duodenal ulcer is struck motionless because of the pain. Third, he was pulseless when first seen at home and had a cold clammy skin. He was given one-half grain of morphine though he weighed but 103 pounds. One hour later when he reached the hospital his pulse was of good volume, he was comparatively comfortable and the capillaries of the skin had regained their tone.

Several years ago in another city a patient with duodenal ulcer perforated while upon the medical wards. He was immediately taken to the operating room, operation performed within an hour, and he died of shock upon the table. Had the operation been postponed until he recovered from his primary shock the chances are that he would have survived. The most preferable time for suturing a perforated duodenal ulcer is as soon as the patient recovers from the shock which is usually four to six hours after the perforation. Within six hours the peritoneum is not actually infected but only contaminated so the danger from peritonitis is less than at any subsequent time. Morphine is the most important drug to administer for treating the primary shock.

This patient was operated upon shortly after admission to the hospital approximately five hours after the onset. A punched out perforation was found in the anterior wall of the duodenum. The opening was closed with interrupted sutures of silk. A pedicle flap of omentum was placed over the suture line for additional protection. The wound was closed in layers without drainage. Convalescence was uneventful. Since then he has gained steadily in weight and strength.

One of the essential factors in treating duodenal ulcer is the placing of each patient upon an individual system of treatment. What is good treatment for one may not be good for another and perhaps be harmful so please do not think the above methods of treatment are advocated for all such complications.

In the first patient venoclysis relieved his pain and saved him from the possibility of having a severe operation in the presence of serious handicaps. In younger patients pyloroplasty of some form or another, or gastric resection would probably have been advisable.

The second patient was cited to call attention to two mistakes. The pre-operative diagnosis was incorrect. The patient complained of severe rhythmic pain which was misleading. In addition the onset of her complete obstruction was relatively sudden and she vomited some dark colored material which resembled contents of the small intestine. The second mistake was assuming the pyloric mass to be malignant. Complete X-ray studies after the first operation would likely have excluded the question of malignancy. Certainly the X-ray studies should have been made.

The third patient was presented because he illustrated the typical rather than the unusual manifestations of acutely perforated duodenal ulcer. He had the pain, the shock, and the board-like rigidity. Attention is called to the fact that when the ulcer is not strictly anterior or when it may be partially protected by gallbladder or omentum, the fluid may gravitate along the outside of the colon and the pain and rigidity be localized in the region of the appendix. In operating for acute appendicitis and the appendix appears normal with cloudy fluid within the abdomen, the duodenum and stomach should always be examined for possible perforation.

In conclusion attention is called to recent and instructive articles upon duodenal ulcer. One is by I. Ridgeway Trimble and David L. Reeves in the Bulletin of the Johns Hopkins Hospital for July, 1936. They believe that the so-called vicious circle is due to failure to suture the mesocolon high up on the stomach. Swelling and edema in the mesocolon if near the line of suture may be the cause of high post-operative obstruction formerly called vicious circle.

The second point of interest in their paper is the attention directed to work of Jonnesco and Petersen who described the two variations found within the duodeno-jejunal fold. Petersen demonstrated that "The first portion of the jejunum may point downward and to the left or downward and to the right. He, therefore, advocated the performing of a gastro-enterostomy, not disturbing the anatomical position of the jejunum at this fold, but approximating it to the stomach in the position found in the individual case.'' Last summer two cases at the City Hospital within a few days of each other illustrated the point noted by Petersen.

Both had pyloric obstruction from ulcer and required gastro-enterostomy. The first patient's jejunum pointed downward and to the left so the anastomosis was made with that relationship. Before exposing the jejunum of the second patient it was carefully explained the proper way to make the anastomosis was always with the jejunum pointing downward and to the left. This patient's jejunum pointed to the right so to avoid dangerous kinking it was necessary to make the anastomosis with that direction. Nothing instructs quite so well as a glaring mistake or misstatement before a group of internes and students. Lewis states that ''the beginning of the jejunum turns downward and to the left (75 per cent of cases) or to the right (25 per cent).''

Another good paper is by Donald Guthrie and Robert F. Sharer in the Journal of the American Medical Association for September 26, 1936. They point out that the patient with perforation is often fixed in a jackknife position from which he is straightened only by overcoming his strenuous objections. They also emphasize that after perforation drainage tubes may be the sites of post-operative obstruction, three of their cases having died from that complication.

After thoroughly studying 78 cases of perforation they conclude ''That simple closure should be the procedure of choice in the majority of perforated duodenal ulcers'' and that most of those so treated will remain well.

Addendum: Since this paper was written Roscoe R. Graham of Toronto in Surgery, Gynecology and Obstetrics for February 1. 1937 has presented an excellent study of fifty-one consecutive perforated duodenal ulcers with only one primary mortality and one secondary mortality six months later. The title of his paper is ''The Treatment of Perforated Duodenal Ulcers.'' The one primary mortality was due to an embolus. He does not practice gastro-enterostomy or any other procedure at the time of closing the perforation. His method of closing the perforation is to secure a free omental graft with three interrupted sutures over the opening without any sutures in the perforation itself. He prefers spinal anesthesia and concludes that routine drainage is not only doubtful but harmful. Adequate fluids and minerals to correct any biochemical variation are given before the operation. Such a low mortality is most unusual and his methods of handling these cases should be closely followed.

BOOK REVIEW

DIABETES, a modern Manual by Anthony M. Sindoni, Jr., M. D., Chief of Disease of Metabolism at the St. Agnes Hospital, Chief Consultant in the Diseases of Metabolism at the Oncologic Hospital, Introduction by Morris Fishbein, Editor, Journal of the American Medical Association. With a foreword by George Morris Piersol, M. D., Professor of Medicine Graduate School of Medicine University of Pennsylvania. Whittlesey House, McGraw-Hill Book Company, 330 W. 42nd St., New York City. Price $2.00.

Diabetes is ever an increasing menace to our population and it is essential the profession should become familiar with a type of book that he can readily refer to in his busy rounds of practice and can also give it to his patients to guide them. Dr. Sindoni has written such a book.

It answers concisely all the questions usually asked by people about diabetes and its control.

SYNOPSIS OF PEDIATRICS, by John Zahorsky, A. B., M. D., F. A. C. P., Professor of Pediatrics and Director of Department of Pediatrics, St. Louis University School of Medicine and Pediatrician-in-chief to the St. Mary's Group of Hospitals, Fellow of American Academy of Pediatrics, assisted by T. S. Zahorsky, B. S., M. D., Second Edtion. The C. V. Mosby Company, Publishers, St. Louis. Price $4.00.

In the new second edition several colored plates have been added and many paragraphs have been revised and the whole contents brought up to date. Excellent selections have been made from the enormous literature which has accumulated during the last quarter of a century, so that this volume can be used readily by medical students as well as the busy practitioners.

SYNOPSIS OF ANO-RECTAL DISEASES, by Louis J. Hirschman, M. D., F. A. C. S., Ex-Vice-President A. M. A., Ex-Chairman Section on Gastroenterology and Proctology, A. M. A. Fellow (Honorary) Royal Society of Medicine. With 174 Text illustrations and Six Color Plates. The C. V. Mosby Company, Publishers. Price $3.50.

The fourth edition of this hand book is a real evidence of the interest in proctological disease. It has been prepared in order to bring the subject before the medical student as well as the general practitioners. It represents the accumulated knowledge of over one-third of a century's experience in the practice of proctology as a specialty.

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NEXT MEETING BEREA, SEPTEMBER 6-9

COUNTY SOCIETY REPORTS

Greenup: At a regular meeting of the Greenup County Medical Society last evening, April 21st I, as Secretary was directed to transmit to you the following motion or resolution unanimously carried.

The motion was made by Dr. Virgil Skaggs and seconded by M. W. Meadors and reads as follows:

The Greenup County Medical Society pledges itself to support the County Health Department in any and all forms of preventive medicine but is unalterably opposed to its practicing curative medicine in any form.

The following members of the county society were present: W. S. Morris, Fullerton; M. W. Meadows, Fullerton; Virgil Skaggs, Russell; J. A. Franz, Russell; H. T. Morris, Greenup; C. B. Johnson, Russell, and K. T. Johnstone, Fullerton.

D. C. PARMENTER, Secretary.

Muldraugh Hill: Another splendid meeting was held by the Muldraugh Hill Medical Society, Elizabethtown, on April 8th, 1937, and it has been very gratifying in all the recent meetings to note the large number of men present at the opening hour.

The program was presided over by Dr. W. B. Atkinson from Campbellsville, who is a veritable bundle of humor and wit, and every man on the program was present except one, and he was summoned to court.

Program opened with Report of Cases. Dr. L. S. Hall, Campbellsville, reported a case—well prepared and delightfully stated,—leaving the final diagnosis until after the discussion. Dr. Henry Harned, Boston, reported unusual case of tetanus. Dr. J. C. Tucker, Leitchfield, reported a long-drawn-out case of a lady with extremely large gall-stone.

Dr. Jas. Lutz reported case of small child with greatly distended gall-bladder, operated by mistake, but promptly recovering. Dr. Frank Stites a case of partial coronary occlusion in young man in college. These were discussed by Drs. A. D. Willmoth, R. T. Layman, Wm. Emrick, C. C. Carroll, F. C. Carroll, Virgil Simpson, James S. Lutz, C. L. Sherman, Franklin Jelsma, Frank Strickler, R. I. Kerr, W. B. Atkinson, Frank Stites, Kenneth Hutcheson, H. H. Hagan, Chas. Long, M. S. Allen, J. M. English, Hall, J. A. Bowen, H. S. Harned, and others.

Dr. Chas. Long, Elizabethtown, presented a 10-month-old baby, who had suffered from influenza, otitis media, adenitis with suppuration, and was roundly applauded for his splendid recovery and results.

Dr. Wm. Allen Pusey, formerly President of the A. M. A., dropped in to the meeting and entertained the Society, with for a short time, with his ready wit and story-telling ability.

A splendid chicken dinner was enjoyed by the Society at the hotel, and an hour of jolly friendship together. Then after a very brief business session, the Society listened to a paper presented by Dr. J. A. Bowen, Louisville, on "The Cause and Effect of Kidney Infections." This was illustrated by lantern slides and was very instructive and entertaining. Practically every man present during the meeting, remained until the last moment, adjourning at 3 P .M.

R. I. KERR, M. D., Secretary.

Jefferson: The two programs for the May meeting of the Jefferson County Medical Society were as follows:

May 3: Business Session 7:45 P. M.
Scientific Program 8:15 P. M.

1. "The Tuberculin Test." By Austin Bloch, M. D.
2. "The Typing of Sputum in Pneumonia." By Harry M. Weeter, M. D.
3. "The Use of Serum in Treatment of Pneumonia." By Carlisle Morse.
4. "The Treatment of Empyema." By M. J. Henry, M. D.

Discussion was opened by Oscar O. Miller, M. D.; John D. Allen, M. D.; Morris Flexner, M. D., and Lamar W. Neblett, M. D.

May 17: Business Session 7:45 P. M.
Scientific Program 8:15 P. M.

CLINICO-PATHOLOGICAL CONFERENCE

1. "Medical Case." Discussion was opened by Chas. E. Gaupin, M. D., and Arthur T. Hurst, M. D.
2. "Pediatric Case." Discussion was opened by T. Cook Smith, M. D., and Lee Palmer M. D.
3. "Surgical Case." Discussion was opened by I. A. Arnold, M. D., and J. B. Lukins, M. D.

A. T. HURST, Secretary.

Caldwell: At a meeting of the Caldwell county medical society held in Princeton in March, 1937, the following officers for the current year were elected: B. K. Amos, president; J. M. Dishman, vice-president; W. L. Cash, secretary-treasurer, re-elected; Frank T. Linton, delegate to State Association; W. C. Haydon, alternate delegate; W. P. Morse, 3-year term, board of censors; W. C. Haydon, 2-year-term; I. Z. Barber, 1-year-term.

W. L. CASH, Secretary.

Daviess: The following resolutions were adopted :

Whereas death has removed from our midst, P. D. Gillim, an able and esteemed member, therefore be it resolved by the Daviess County Medical Society:

First: That while we bow with submission to the sad dispensation of Providence, we express our deep sorrow at the loss of so valuable a citizen.

Second: That we deeply sympathize with his family in the loss of a kind and loving husband and father.

Third: That these resolutions be spread upon the minutes of the Daviess County Medical Society and a copy thereof be sent to the Journal and that the Secretary be instructed to furnish a copy of this resolution to his wife and children.

ALICE W. DAVIS, Secretary.

Letcher: The Letcher County Medical Society assembled in the dining room of the Cumberland Hotel in Neon, Tuesday night, April 27, at 7:30 p. m. The following physicians and guests were present: J. E. Stanfill, president; B. F. Wright, H. R. Skaggs, E. G Skaggs, O. F. Kleckner, G. D. Ison, J. E. Crawford, B. C. Bach, T. M. Radcliffe, Can M. Bently, R. L. Collins, and the guests were Rev. O. V. Caudill, Mrs. B. F. Wright and Mrs. O. F. Kleckner.

After a most sumptuous repast, served by our genial host, Dr B. F. Wright, the following program was given:

"Medical Ethics"—B. F. Wright. This talk was rather inspiring and stated very frankly the short comings that the medical profession was allowing itself to get in. Furthermore it was an appeal for a closer cooperation on the part of every member, and that salaries and fees of the various special treatments should be standardized and adhered to by all. This splendid talk was commented on by every member present. At the conclusion of this discussion a motion was made and passed that the following committee: Drs. Stanfill, Wright, Bach and Ison formulate resolutions to be presented at the May meeting covering all the rules and regulations that should cover the above subjects "Medical Ethics" in Letcher County.

Rev. O. V. Caudill made a short talk, outlining the recent Crippled Children's Clinic sponsored by the Whitesburg Rotary Club and was most grateful in his remarks for the splendid co-operation on the part of our county physicians toward the Crippled Children's work. The meeting adjourned at 10:30 P. M.

R. DOW COLLINS, Secretary.

Harlan: Harlan County Medical Society was host to the Eleventh District, Saturday, May 27. An interesting and instructive program was carried out and a splendid dinner served.

C. M. BLANTON, Secretary.

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VOL. 35. No. 7 BOWLING GREEN, KY. JULY, 1937

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Editorial and Business Offices, 519 Tenth Street. Subscription Price, $5.00; Single Copy, 50 cents.
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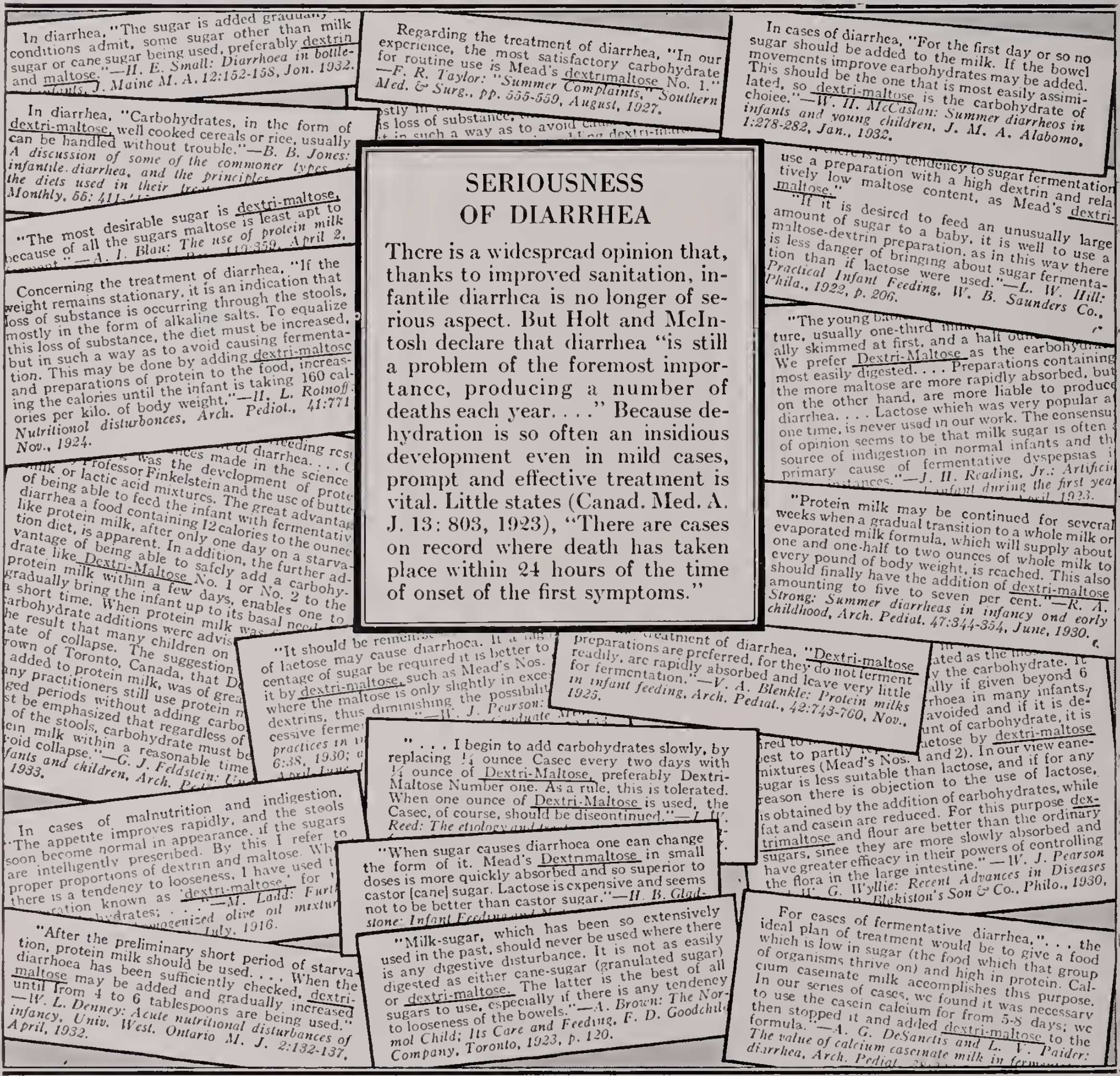
DIARRHEA

"the commonest ailment of infants in the summer months"

(HOLT AND McINTOSH: HOLT'S DISEASES OF INFANCY AND CHILDHOOD, 1933)

One of the outstanding features of DEXTRI-MALTOSE is that it is almost unanimously preferred as the carbohydrate in the management of infantile diarrhea.



In diarrhea, "The sugar is added gradually
conditions admit, some sugar other than milk
sugar or cane sugar being used, preferably dextrin
and maltose."—*H. E. Small: Diarrhoea in bottle-*
infants, J. Maine M. A. 12:152-158, Jan. 1932.

Regarding the treatment of diarrhea, "In our experience, the most satisfactory carbohydrate for routine use is Mead's dextrimaltose No. 1."—*F. R. Taylor: "Summer Complaints," Southern Med. & Surg., pp. 555-559, August, 1927.*

In cases of diarrhea, "For the first day or so no sugar should be added to the milk. If the bowel movements improve carbohydrates may be added. This should be the one that is most easily assimilated, so dextri-maltose is the carbohydrate of choice."—*W. H. McCaslan: Summer diarrheas in infants and young children, J. M. A. Alabama, 1:278-282, Jan., 1932.*

In diarrhea, "Carbohydrates, in the form of
dextri-maltose, well cooked cereals or rice, usually
can be handled without trouble."—*B. B. Jones:*
A discussion of some of the commoner types
infantile diarrhea, and the principles
the diets used in their
Monthly, 56: 411-

"The most desirable sugar is dextri-maltose,
because of all the sugars maltose is least apt to
ferment."—*A. I. Blau: The use of protein milk*
119:359, April 2,

Concerning the treatment of diarrhea, "If the
weight remains stationary, it is an indication that
loss of substance is occurring through the stools,
mostly in the form of alkaline salts. To equalize
this loss of substance, the diet must be increased,
but in such a way as to avoid causing fermentation.
This may be done by adding dextri-maltose
and preparations of protein to the food, increasing
the calories until the infant is taking 160 calories
per kilo. of body weight."—*H. L. Rotnoff:*
Nutritional disturbances, Arch. Pediat., 41:771
Nov., 1924.

of diarrhea. . . .
was the development in the science
Professor Finkelstein and the use of protein
milk or lactic acid mixtures. The great advantage
of being able to feed the infant with fermentative
diarrhea a food containing 12 calories to the ounce,
like protein milk, after only one day on a starvation
diet, is apparent. In addition, the further advantage
of being able to safely add a carbohydrate
like Dextri-Maltose No. 1 or No. 2 to the
protein milk within a few days, enables one to
gradually bring the infant up to its basal need
a short time. When protein milk was
carbohydrate additions were advis
the result that many children on
state of collapse. The suggestion
Brown of Toronto, Canada, that D
added to protein milk, was of grea
any practitioners still use protein m
ged periods without adding carbo
st be emphasized that regardless of
of the stools, carbohydrate must be
tein milk within a reasonable time
void collapse."—*G. J. Feldstein:*
fants and children, Arch. Ped
1933.

SERIOUSNESS OF DIARRHEA

There is a widespread opinion that, thanks to improved sanitation, infantile diarrhea is no longer of serious aspect. But Holt and McIntosh declare that diarrhea "is still a problem of the foremost importance, producing a number of deaths each year. . . ." Because dehydration is so often an insidious development even in mild cases, prompt and effective treatment is vital. Little states (Canad. Med. A. J. 13: 803, 1923), "There are cases on record where death has taken place within 24 hours of the time of onset of the first symptoms."

use a preparation with a high dextrin and rela
tively low maltose content, as Mead's dextri-
maltose."

"If it is desired to feed an unusually large
amount of sugar to a baby, it is well to use a
maltose-dextrin preparation, as in this way there
is less danger of bringing about sugar fermentation
than if lactose were used."—*L. W. Hill:*
Practical Infant Feeding, W. B. Saunders Co.,
Phila., 1922, p. 206.

"The young
ture, usually one-third
ally skimmed at first, and a half
We prefer Dextri-Maltose as the carbohydrate
most easily digested. . . . Preparations containing
the more maltose are more rapidly absorbed, but
on the other hand, are more liable to produce
diarrhea. . . . Lactose which was very popular at
one time, is never used in our work. The consensus
of opinion seems to be that milk sugar is often
source of indigestion in normal infants and the
primary cause of fermentative dyspepsias
instances."—*J. H. Reading, Jr.: Artificial*
infant during the first year
1923.

"Protein milk may be continued for several
weeks when a gradual transition to a whole milk or
evaporated milk formula, which will supply about
one and one-half to two ounces of whole milk to
every pound of body weight, is reached. This also
should finally have the addition of dextri-maltose
amounting to five to seven per cent."—*R. A.*
Strong: Summer diarrheas in infancy and early
childhood, Arch. Pediat. 47:344-354, June, 1930.

"It should be remem
of lactose may cause diarrhoea. It
centage of sugar be required it is better to
it by dextri-maltose, such as Mead's Nos.
where the maltose is only slightly in exce
dextrins, thus diminishing the possibilit
cessive ferme
practices in
6:38, 1930;
"—*W. J. Pearson:*

treatment of diarrhea, "Dextri-maltose
preparations are preferred, for they do not ferment
readily, are rapidly absorbed and leave very little
for fermentation."—*V. A. Blenkle: Protein milks*
in infant feeding, Arch. Pediat., 42:743-760, Nov.,
1925.

ated as the mo
y the carbohydrate. It
ally if given beyond 6
rhoea in many infants,
avoided and if it is de
unt of carbohydrate, it is
actose by dextri-maltose
and 2). In our view cane-
sugar is less suitable than lactose, and if for any
reason there is objection to the use of lactose,

ired to
best to partly
mixtures (Mead's Nos.
is obtained by the addition of carbohydrates, while
fat and casein are reduced. For this purpose dextrimaltose
and flour are better than the ordinary
sugars, since they are more slowly absorbed and
have greater efficacy in their powers of controlling
the flora in the large intestine."—*W. J. Pearson*
and W. G. Wyllie: Recent Advances in Diseases
Blakiston's Son & Co., Philo., 1930,

". . . I begin to add carbohydrates slowly, by replacing ¼ ounce Casec every two days with ¼ ounce of Dextri-Maltose, preferably Dextri-Maltose Number one. As a rule, this is tolerated. When one ounce of Dextri-Maltose is used, the Casec, of course, should be discontinued."—*J. W.*
Reed: The etiology and

In cases of malnutrition and indigestion.
"The appetite improves rapidly, and the stools
soon become normal in appearance, if the sugars
are intelligently prescribed. By this I refer to
proper proportions of dextrin and maltose. Wh
there is a tendency to looseness, I have used t
ration known as 'dextri-maltose,' for
hydrates; . . ."—*M. Ladd: Furth*
homogenized olive oil mixtur
July, 1916.

"When sugar causes diarrhoea one can change
the form of it. Mead's Dextrimaltose in small
doses is more quickly absorbed and so superior to
castor [cane] sugar. Lactose is expensive and seems
not to be better than castor sugar."—*H. B. Glad-*
stone: Infant Feeding and N

"After the preliminary short period of starvation, protein milk should be used. . . . When the diarrhoea has been sufficiently checked, dextri-maltose may be added and gradually increased until from 4 to 6 tablespoons are being used."—*W. L. Denney: Acute nutritional disturbances of infancy, Univ. West. Ontario M. J. 2:132-137, April, 1932.*

"Milk-sugar, which has been so extensively used in the past, should never be used where there is any digestive disturbance. It is not as easily digested as either cane-sugar (granulated sugar) or dextri-maltose. The latter is the best of all sugars to use, especially if there is any tendency to looseness of the bowels."—*A. Brown: The Normal Child; Its Care and Feeding, F. D. Goodchild Company, Toronto, 1923, p. 120.*

For cases of fermentative diarrhea, ". . . the ideal plan of treatment would be to give a food which is low in sugar (the food which that group of organisms thrive on) and high in protein. Calcium caseinate milk accomplishes this purpose. In our series of cases, we found it was necessary to use the casein calcium for from 5-8 days; we then stopped it and added dextri-maltose to the formula."—*A. G. DeSanctis and L. V. Paider:*
The value of calcium caseinate milk in ferm
diarrhea, Arch. Pediat.

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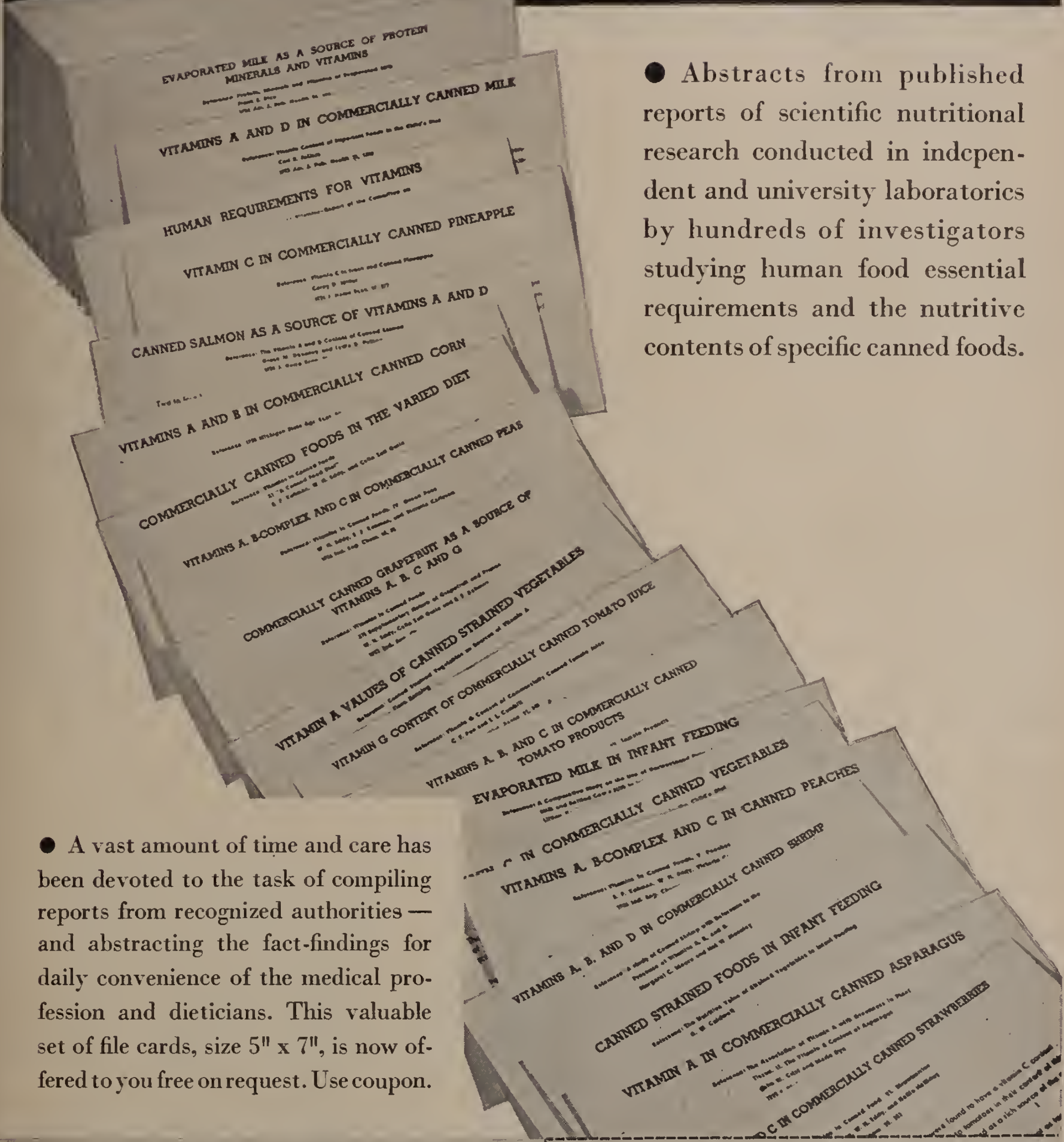
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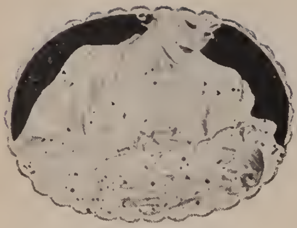

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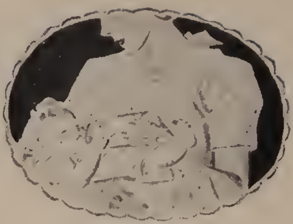

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CALENDAR OF COUNTY SOCIETY MEETINGS

COUNTY	SECRETARY	RESIDENCE	DATE
Adair	N. A. Mercer	Columbia	July 7
Allen	A. O. Miller	Petroleum	July 28
Anderson	J. B. Lyen	Lawrenceburg	July 5
Ballard	F. H. Russell	Wickliffe	
Barren	Paul S. York	Glasgow	July 21
Bath	H. S. Gilmore	Owingsville	July 12
Bell	R. F. Porter	Middlesboro	July 9
Boone	R. E. Ryle	Walton	July 21
Bourbon	S. M. Rickman	Paris	July 22
Boyd	C. B. Daniels	**Ashland**	July 6
Boyle	Geo. M. McClure	Danville	July 20
Bracken-Pendleton	W. A. McKenny	Falmouth	July 5
Breathitt	Frank K. Sewell	Jackson	July 20
Breckinridge	J. E. Kincheloe	Hardinsburg	
Bullitt	S. H. Ridgeway	Shepherdsville	
Butler	G. E. Embry	Morgantown	July 7
Caldwell	W. L. Cash	Princeton	July 6
Calloway	Hugh L. Houston	Murray	July 1
Campbell-Kenton	C. A. Morris	Covington	July 1-15
Carlisle	J. F. Dunn	Arlington	July 6
Carroll	J. M. Ryan	Carrollton	July 13
Carter	Don E. Wilder	Grayson	July 13
Casey	William J. Sweeney	Liberty	July 22
Christian	M. A. Gilmore	Hopkinsville	July 20
Clark	R. E. Strode	Winchester	July 16
Clay	J. L. Anderson	Manchester	
Clinton	S. F. Stephenson	Albany	July 17
Crittenden	C. G. Moreland	Marion	July 12
Cumberland	W. F. Owsley	Burkesville	July 7
Daviess	Alice W. Davis	Owensboro	July 13-27
Elliott		Sandy Hook	
Estill	Tracy Wallace	Irvine	July 14
Fayette	John Harvey	Lexington	July 13
Fleming	C. W. Christine	Flemingsburg	July 14
Floyd	J. G. Archer	Prestonsburg	July 28
Franklin	Grace R. Snyder	Frankfort	July 1
Fulton	Gradie R. Rountree	Hickman	July 14
Gallatin	J. M. Stallard	Sparta	July 15
Garrard	J. E. Edwards	Lancaster	July 15
Grant	P. E. Harper	Dry Ridge	July 14
Graves	H. H. Hunt	Mayfield	July 6
Grayson			
Green	S. J. Simmons	Greensburg	July 5
Greenup			July 9
Hancock	F. M. Grffin	Hawesville	July 5
Hardin	D. E. McClure	Elizabethtown	July 8
Harlan	C. M. Blanton	Harlan	July 17
Harrison	W. B. Moore	Cynthiana	July 5
Hart	S. F. Richardson	Munfordsville	July 6
Henderson	Walter O'Nan	Henderson	July 12-26
Henry	Owen Carroll	New Castle	July 26
Hickman		Clinton	July 1
Hopkins	David L. Salmon	Madisonville	July 1
Jackson			July 3
Jefferson	Arthur T. Hurst	Louisville	July 5-19
Jessamine	J. A. Van Arsdall	Nicholasville	July 22
Johnson	P. B. Hall	Paintsville	July 10
Knott	M. F. Kelley	Hindman	July 24
Knox	T. R. Davis	Barbourville	July 23
Larue	D. W. Gaddie	Hodgenville	July
Laurel	Oscar D. Brock	London	July 14
Lawrence	L. S. Hayes	Louisa	July 19
Lee	W. D. McCollum	Beattyville	July 10
Leslie	John H. Kooser, Act. Sec'y	Hyden	
Letcher	R. Don Collins	**Whitesburg**	July 27
Lewis			July 19
Lincoln	Lewis J. Jones	Hustonville	July 16
Livingston	William C. Davis	**Smithland**	July
Logan	Walter Bryne, Jr.	Russellville	July
Lyon	H. H. Woodson	**Eddyville**	July 13
McCracken	Leon Higdon	**Paducah**	July
McCreary	R. M. Smith	**Stearns**	July 5
McLean	L. Hubert Medley	Livermore	July 8
Madison	H. G. Wells	**Richmond**	July 15

COUNTY	SECRETARY	RESIDENCE	DATE
Marion	W. A. Risteen	Lebanon	July
Marshall	S. L. Henson	Benton	July 21
Mason	O. M. Goodloe	Maysville	July 21
Meade	A. A. Baxter	Brandenburg	July 22
Menifee	E. T. Riley	Frenchburg	July
Mercer	J. Tom Price	Harrodsburg	July 13
Metcalfe	E. S. Dunham	Edmonton	July
Monroe	George E. Bushong	Tompkinsville	July
Montgomery	D. H. Bush	Mount Sterling	July 13
Morgan			July
Muhlenberg	G. L. Simpson	Greenville	July 13
Nelson	R. H. Greenwell	Bardstown	
Nicholas	T. P. Scott	Carlisle	July 19
Ohio	Oscar Allen	McHenry	July 7
Oldham	S. J. Smock	LaGrange	July 6
Owen	K. S. McBee	Owenton	July 1
Owsley	John R. Aker	Booneville	July 5
Pendleton	W. A. McKenney	Falmouth	July 14
Perry	D. D. Turner	Hazard	July 12
Pike	F. H. Hodges	Pikeville	July 5
Powell	I. W. Johnson	Stanton	July 5
Pulaski	M. C. Spradlin	Somerset	July 8
Robertson			
Rockcastle	Lee Chestnut	Mount Vernon	July
Rowan	A. W. Adkins	Morehead	July 12
Russell	J. B. Scholl	Jabez	July 12
Scott	L. L. Cull	Georgetown	July 1
Shelby	A. D. Doak	Shelbyville	July 15
Simpson	N. C. Witt	Franklin	July 13
Spencer	No Organization		
Taylor	M. M. Hall	Campbellsville	July 8
Todd	B. E. Boone, Jr.	Elkton	July 7
Trigg	H. L. Wallace	Cadiz	July 28
Trimble	J. J. Gerkins	Bedford	July
Union	D. C. Donan	Morganfield	July 28
Warren	Hal Neel	Bowling Green	July 14
Washington	J. H. Hopper	Willisburg	July 21
Wayne			July
Webster	C. M. Smith	Dixon	July 30
Whitley	C. A. Moss	Williamsburg	July 1
Wolfe	G. M. Center	Campton	July 5
Woodford	Charles F. Voigt	Midway	July 1

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Senility
Drug Addiction

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- Relatively non-toxic when the dose is properly controlled.
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- Requires very little shaking.

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	1 Ounce of Cocomalt adds	1 Glass of Milk (8 Liquid Ozs.) contains	Result! 1 Glass of Cocomalt and milk contains
†IRON	0.005 GRAM	*TRACE	0.005 GRAM
†VITAMIN D	81 U.S.P. UNITS	*SMALL AMOUNT VARIABLE	81 U.S.P. UNITS
†CALCIUM	0.15 GRAM	0.24 GRAM	0.39 GRAM
†PHOSPHORUS	0.16 "	0.17 "	0.33 "
PROTEIN	4.00 GRAMS	7.92 GRAMS	11.92 GRAMS
FAT	1.25 "	8.53 "	9.78 "
CARBOHYDRATES	21.50 "	10.97 "	32.47 "

*Normally Iron and Vitamin D are present in Milk in only very small and variable amounts.

†Cocomalt, the protective food drink, is fortified with these amounts of Calcium, Phosphorus, Iron and Vitamin D.

Doctors often say that, during convalescence, one of the greatest problems is nutrition. In such cases many physicians have found Cocomalt helpful. It is a particularly good source of food-energy and young and old alike find it easy to digest.

An ounce-serving of Cocomalt increases the food-energy of a cup or glass of milk 70 per cent...this quantity of Cocomalt adding 4.00 grams of Protein, 21.50 grams of Carbohydrates, .15 gram of Calcium and .16 gram of Phosphorus to the milk. More important, each serving of this protective food drink contains 81 U.S.P. Units of Vitamin D, which aids the system to utilize the calcium and phosphorus. The Vitamin D is derived from natural oils and biologically tested for potency.

In addition, each serving of Cocomalt provides 5 milligrams of effective Iron that has been biologically tested for assimilation...enough Iron to supply ⅓ of the daily nutritional requirements of the normal patient.

Cocomalt is very inexpensive and is available at grocery and drug stores in ½-lb. and 1-lb. purity-sealed cans. Also, for professional use, in the economical 5-lb. hospital size.

Cocomalt is the registered trade-mark of R. B. Davis Co., Hoboken, N. J.

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*Doctor*________________________

*Street and Number*________________________

*City*______________ *State*______________

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KENTUCKY MEDICAL JOURNAL

BEING THE JOURNAL OF THE KENTUCKY STATE MEDICAL ASSOCIATION

Published Under the Auspices of the Council

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THE BEREA MEETING

Dr. R. H. Cowley, Chairman of the Committee on Arrangements, has completed plans for taking care of those who attend the Berea meeting. Two of the newest and most comfortable dormitories—Fairchield Hall and Elizabeth Roberts Hall—will be reserved for the exclusive use of visiting doctors, their families and their friends. While there are no private baths in these dormitories, each floor has a number of showers and tubs. The rooms are equipped with single beds and will be available at the remarkably low rate of seventy-five cents a day for single rooms and one dollar and a half a day for double rooms. Meals will be served in the large dining room at fifty cents each, making a total of $2.25 a day for rooms and meals.

The program offers one of the best postgraduate courses to be had anywhere. The meeting also offers an opportunity for giving the family a fine vacation at a very low cost. A week may be spent in the foothills of the Kentucky mountains, amidst the most beautiful scenery, for only $15.75. Those desiring hotel accommodations should write immediately to the Boone Tavern, the Colonial Inn or the Bluegrass Inn. The accommodations at these hotels are very limited and, so, will all be engaged far in advance. Better make your reservations now and be certain.

Begin at once to plan for the Berea meeting on September 5, 6 and 7. Take advantage of the opportunity to combine an intellectual feast with a pleasureable outing.

REGISTRATION UNDER HARRISON NARCOTIC ACT

The May 22nd issue of the Journal of the A. M. A. gives the following timely warning:

On or before July 1, every physician registered under the Harrison Narcotic Act must reregister with the collector of internal revenue of each district in which he maintains an office or a place for the treatment of patients. Failure to reregister within the time allowed by law adds a penalty of 25 per cent to the annual narcotic tax payable at the time of registration and in addition makes the physician in default liable to a fine not exceeding $2,000, or to imprisonment for not exceeding five years, or to both. While the Commissioner of Internal Revenue has been lenient in the past in enforcing the criminal penalties provided by the act for tardy registration, continued disregard on the part of some physicians of the requirement of the act with respect to reregistration will inevitably lead to criminal prosecutions. In recent years the commissioner has given some negligent or recalcitrant physicians the choice between paying substantial sums by way of compromise in lieu of the penalties for their offenses or, as an alternative, accepting criminal prosecution, with resultant publicity and liability to fines of indefinite amounts and possibly imprisonment. This was an act of grace on the part of the commissioner; under the law he might have instituted criminal prosecutions without allowing the offending physicians any choice in the matter. Physicians must bear the requirements of the act in mind. If tardiness in registration results in criminal prosecutions, hereafter, they must recognize that ample notice has been given them.

WHAT KENTUCKY DOCTORS ARE DOING

At the recent meeting of the Annual School for County and City Health Officers, many distinguished guests were present. Among them were Dr. J. P. Leake, Senior Surgeon, United States Public Health Service, Washington, who is an authority on Meningococcus Meningitis; Dr. Mark F. Boyd, in charge of Malaria Investigation of the International Health Board, Rockefeller Foundation, Tallahassee, Florida, whose work on malaria is known throughout the civilized world. Dr. Robert Oleson, Acting Surgeon General, United States Public Health Service, who rendered such valuable service to Kentucky during the flood, was present at this meeting.

Dr. Horton Casparis, Professor of Pediatrics of the Vanderbilt School of Medicine, Nashville, Tennessee, addressed the School of Public Health and was a guest at the Louisville Pediatrics Society while in Louisville.

The profession was exceedingly fortunate in having these distinguished men in our midst.

Dr. William Carpenter MacCarty, native

of Louisville and graduate of the University of Kentucky, was the principal speaker at the annual university alumni banquet June 3 at the Phoenix Hotel.

Dr. MacCarty is a writer, investigator and lecturer on biological subjects and is director of laboratories for the Mayo Clinic, Rochester, Minn., and also professor of pathology at the University of Minnesota Medical School.

A school for public health workers will be given by the Department of Hygiene and Public Health at the University of Kentucky during the 1937 summer session. The school, which will fulfill the requirements for education and training of personnel set up by the United States Public Health Service, will consist of eight weeks of classroom instruction and four weeks of practical field work.

The academic work will consist of courses for health officers, nurses and sanitary inspectors.

Among the non-resident faculty members for the course will be Dr. Harry S. Mustard, Johns Hopkins; Dr. R. J. Griffin, State Department of Health; Dr. Lowell J. Reed, Johns Hopkins; Dr. E. J. Murray, Julins Marks Sanatorium; Dr. O. M. Goodloe, Maysville, county health office; E. C. Handorf, Fayette County Health Department; Dr. H. G. Wells, Richmond; Dr. Carl Gambill, Georgetown, and Dr. Lee Dare, Lawrenceburg.

Dr. T. J. Marshall, Paducah specialist, was named president of the Southwestern Kentucky Medical Association at the sixty-eighth annual session of the society. He succeeds Dr. Frank P. Linton, Princeton. Arlington was selected for the August meeting.

Dr. W. O. Johnson, Louisville, was elected president of the staff of the Kentucky Baptist Hospital at the annual election of officers held at the hospital. Other officers named were vice president Dr. J. S. Bumgardner; and secretary Dr. W. W. Nicholson.

Dr. B. L. Percifull, McKee, was seriously injured in an automobile accident near Richmond. Besides internal injuries, his right ear and left ankle were lacerated.

Dr. John McReynolds, Dallas, Texas, former president of the Pan American Medical Association, has purchased his family homestead, Edward's Hall, at Elkton. This stately mansion was built in 1820 by Benjamin Edwards, member of Congress from Maryland and the ancestor of Dr. Reynolds. He plans to have it restored to its original condition and then spend the summer in his ancestral home.

BIRTH CONTROL

The American Medical Association launched a four-point program of contraceptive education and advise after lifting its traditional taboo on birth control.

Included in the program was for a training at medical schools to assist childless couples who want children as well as parents who wish to limit the size of their families.

The committee which passed on the birth control measure said the poor patients were entitled to learn what the rich persons were able to buy.

SOUTHWESTERN MEDICAL SOCIETY

The Southwestern Medical Society met in Paducah, on May 11th at the Ritz Hotel. Seventy-five physicians and surgeons were present at this sixty-eighth annual meeting. Addresses were delivered by the following: Dr. Drew Luten, St. Louis, on the management of Congestive Heart Failure; Dr. F. Lee Stone, Chicago, "Sterility;" Dr. Joseph, of Memphis, "Surgery" and Dr. C. O. Miller, "Strictures of the Urethra and Associated Complications." Dr. John Shea addressed the association at night on "Sinusitis in Children."

WILL THIS COME TO KENTUCKY?

"Read your own blood pressure, 10c" was the large sign in front of a device at Coney Island, which has become the storm center of a legal battle. The State Department of Education of New York has asked the Supreme Court to order this and other machines of the kind out of existence on the ground that their operation violates the State Medical Practice Act. Taking a blood pressure is argued to be a diagnosis of a physical condition, and should not be done except by a physician. The maker of the machines has countered by filing an injunction to prevent interference with his business, and the matter will be fought out in the courts.

Recently an operator of one of the machines was arrested on a charge of practicing medicine without a license, and will soon be brought to trial.

The W. A. Baum Company, of New York, makers of blood pressure apparatus are prosecuting this case. They are vigorously opposed to this misuse of medico-scientific instruments.

Kentucky physicians will profit by the exposition of this affair and if confronted with the problem will have The Baum Company's activity as a precedent to combat this evil.

OFFICIAL ANNOUNCEMENTS

PRELIMINARY PROGRAM
of the
KENTUCKY STATE MEDICAL ASSOCIATION
BEREA
September 6, 7, 8, 9, 1937

Tuesday, September 7
9:00 A. M.

Call to Order by the President
Invocation
Address of Welcome
Response to Address of Welcome
Installation of President
Report of Committee on Arrangements

SCIENTIFIC SESSION

Tuesday, September 7
9:30 A. M.

1. Presentation of Case Reports
2. Epidemiology of Tuberculosis ....J. B. Floyd
   Richmond
3. Preventive Medicine in General Practice........L. C. Coleman
   Richmond
4. Pneumonia ....W. J. Shelton
   Mayfield

SPECIAL ORDER

Tuesday, September 7
12:00 M.

ORATION IN SURGERY

J. A. Ryan, Covington

SCIENTIFIC SESSION

Tuesday, September 7
2:00 P. M.

1. Diagnosis, Prognosis and Management of Cardiac Infarction..C. N. Kavanaugh
   Lexington
2. Renal Tuberculosis ....J. A. Bowen
   Louisville
3. Present Trends in Prostatectomy ....J. Mac. Townsend
   Louisville
4. Urolithiasis ....E. D. Smith
   Owensboro
5. Management of Eclampsia ....A. D. Butterworth
   Murray
6. The Uses of the Ovarian Hormones in Obstetrics ....Silas Starr
   Louisville

PUBLIC MEETING

Tuesday, September 7
8:00 P. M.

President's Address ....H. G. Reynolds
Paducah
Address, Irvin Abell ....President-Elect
American Medical Association

SCIENTIFIC SESSION

Wednesday, September
8:30 A. M.

1. What the General Practitioner Should Know About the Histopathology of the Nasal Accessory Sinuses: Its Use as an Index and Guide in the Diagnosis and Management of Nasal Sinus Disease ....J. D. Heitger
   Louisville
2. Nasal Accessory Sinuses and Their Relation to the Respiratory Tract ....C. T. Wolfe
   Louisville
3. Management of Eye Injuries....M. C. Baker
   Louisville
4. Laryngeal Diphtheria and its Management ....D. L. Salmon
   Madisonville
5. Local and General Considerations of some Common Eye Diseases ....F. W. Pirkey
   Louisville

SPECIAL ORDER

Wednesday, September 8
12:00 M.

ORATION IN MEDICINE

A. W. Nickell, Louisville

SCIENTIFIC SESSION

Wednesday, September 8
2:00 P. M.

1. Sulphanilamide ....Morris Flexner
   Louisville
2. The Rectum as a Much Neglected Seat of Focal Infection ....H. A. Gillian
   Mayfield
3. Cancer of the Breast Retrospect and Preview ....Louis Frank
   Louisville
4. The Acute Abdomen in General Practice ....G. M. McClure
   Campbellsville
5. The Acute Abdomen in Surgery ....E. L. Henderson
   Louisville

SCIENTIFIC SESSION

Wednesday, September 8
4:30 P. M.—5:30 P. M.

ROUND TABLE DISCUSSION

Obstetrics ....Led by Edward Speidel
Louisville
Arthritis ....Led by D. E. Jones
Louisville
Eye, Ear, Nose and Throat........

ANNUAL SUBSCRIPTION DINNER

Wednesday, September 8
6:30 P. M.

Address ....A. T. McCormack
Louisville
Address ....Guest Speaker

Scientific Session

Thursday, September 9
8:30 A. M.

1. Pelvic Infections ....I. J. Hoover, Owensboro
2. Where Private Practice Ends and Public Health Begins........W. B. Atkinson, Campbellsville
3. Some Practical Considerations in Diagnosis and Treatment of Lues ....A. B. Loveman, Louisville
4. Neurological Changes Associated with Pernicious Anemia ....J. J. Moren, Louisville
5. Nephritis in Children ....J. W. Bruce, Louisville
6. Pyelitis in Children ....M. C. Spradlin, Somerset

Scientific Session

Thursday, September
1:30 P. M.

1. Diphtheria ....Lee Palmer, Louisville
2. Doctors and Their Relations to Malpractice Suits ....Clark Bailey, Harlan
3. Better Obstetrics and Less Gynecology ....E. C. Wilhite, Covington

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PROGRAM OF PEDIATRIC CLINIC

The American Academy of Pediatrics through its State Chairman, P. F. Barbour and the members of his committee are arranging a general pediatric meeting at Berea, Monday, September 5th. The program which begins at 10 A. M. is as follows:

"The Use of Mandelic Acid in the Treatment of Pyelitis in Children"............ Thomas Marshall, Paducah

"'Management of the Sick Child"........ Leslie W. Winans, Ashland

"Treatment of Pneumonia in Children," Charles McKinlay, Lexington

"Surgical Treatment of Empyema,".... F. M. Massie, Lexington

Between two and three p. m. a clinic will be held by James W. Bruce, Louisville, and the round table conference between three and four p. m. by Lee Palmer, Louisville.

The papers and discussion will be very practical and should prove most interesting and helpful to the general practitioner. The discussion will be open to anyone who wants to speak.

A similar meeting held at Paducah had an attendance of more than forty doctors. If anyone should want a particular subject discussed at the round table conferences, please notify the Chairman.

AMBULATORY TREATMENT OF THE DIABETIC*

Stanley T. Simmons, M. D.

Louisville.

Diabetes Mellitus

The cause of diabetes mellitus is not known. In 1889 diabetes was proved to be associated with pancreatic function. In 1900 it was shown to follow degeneration of the islets of Langerhans. On the basis of these studies it was assumed that the disease was due to a deficiency of the production of insulin by islet tissue.

This hypothesis, however, falls short of explaining all the facts. More and more we are coming to believe that hyperglycemia is the result not so much of lack of insulin as to its ineffectiveness. Antagonistic forces, nervous, toxic and glandular, may inhibit the formation of insulin by a normal pancreas, or neutralize it after it has been formed.

To explain why this change of opinion is taking place, we will review briefly some of the facts that have been demonstrated in the study of diabetes in the past decade. We know that almost total destruction of the islets of Langerhans is necessary to produce coma by this means and nine-tenths of the pancreas can be removed without producing hyperglycemia. Many persons dying in diabetic coma show little or no destruction of islet tissue. Nervous or emotional excitement inhibits the action of insulin. The toxemia of fever apparently neutralizes its effects. It is necessary to give much larger doses to maintain a normal blood sugar in the presence of fever.

Endocrine disturbances influence the production or potency of insulin. Diabetic patients with an associated hyperthyroidism show a marked insulin resistance. Diabetic girls show a lowered glucose tolerance at the onset of menstruation.

Pituitary hyperfunction is accompanied by an elevated blood sugar. Adrenalin is so definitely antagonistic that it may be employed in the treatment of insulin shock. It is evident therefore, that the endocrine system is involved in diabetes and further research in this field may reveal its cause and improved methods of control.

Diagnosis

The diagnosis of diabetes is easy and depends upon the performance of two tests, viz: a urinalysis and a determination of the amount of glucose in the blood. The typical symptoms are:

Polyphagia, polydypsia, polyuria, loss of weight, boils and carbuncles, dermatitis and pruritis, cataract and failing vision, gangrene, coma.

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*Read before the Jefferson County Medical Society, January 18, 1937.

Any one of these symptoms can accompany other conditions and is, therefore, only suggestive. Conclusive evidence of diabetes is to be found in a blood sugar determination and a urinalysis. The urinalysis is usually sufficient, but not always. The presence of glucose in the urine does not always indicate diabetes mellitus. In renal glycosuria glucose is present in the urine and the blood sugar findings are normal. The reducing substance in the urine may not be glucose, but pentose, levulose, or lactose. When sugar is found in the urine a fasting blood sugar determination should be done to clinch the diagnosis. If sugar is found in the urine and the fasting blood sugar is over 125 mg. per 100 CC., a diagnosis of diabetes mellitus is justified.

Both of these tests are within the reach of the modern general practitioner. A urinalysis can be done in the office in five minutes. For a blood sugar determination 8 cc's of blood is collected from a vein and placed in a stoppered botttle containing a few grains of sodium citrate. It is then sent to the nearest biological laboratory. If the specimen is to be sent a distance by mail, two drops of a 40 per cent formaldehyde solution should be added to prevent destruction of the sugar.

TREATMENT

When confronted with the treatment of diabetes the average general practitioner, because of the multiplicity of calories, carbohydrates, gram scales, and food charts, becomes panic stricken and helpless. When properly conducted the routine of treatment is carried out largely by the patient. No doctor can successfully treat any case of diabetes until the patient or some member of his family becomes interested enough to be responsible for the routine management of his case. The physician must be familiar with the principles and criteria of successful treatment. It should be understood from the very first that none except the mildest cases can be successfully treated except by careful calculation of the diet by some means. This is the foundation of successful treatment. How is the patient to learn routine care then? The doctor must teach him or delegate a dietitian or another intelligent diabetic patient to do it.

The aim of treatment in any diabetic is as follows:

(1) To render the urine sugar-free.

(2) To maintain the blood sugar as near normal as is compatible with his sense of well being.

(3) To furnish him sufficient food, carefully balanced, to maintain his weight at ten per cent below normal for age, height and sex.

By maintaining, with the aid of insulin, a sugar-free urine and a normal blood sugar, the glucose tolerance of the patient will improve and the diet can be increased or the insulin dosage can be reduced. The modern low fat diet will bring the cholesterol within normal limits and avert the early onset of arteriosclerosis which was formerly a constant finding in diabetes. Obesity is such a constant contributing factor in diabetes and overnourishment is dangerous, therefore, the rationale of weight reduction is obvious.

EDUCATION OF THE PATIENT

The first step then in treatment is the education of the patient in the management of his own case. He is not safe until this has been accomplished. He or some member of his family must be taught to do three things: (1) test his urine for sugar; (2) calculate his diet; (3) give himself insulin. The urine should be tested four times daily—before breakfast and one hour after each meal.

He should be required to provide himself with a bottle of Benedict's Solution, a test tube, a 500 gram food scale, and a table of food values. Excellent tables of food values enumerated both in grams and household measurements are published by Eli Lilly and other pharmaceutical houses furnishing insulin.

DIET

The prescription of the diet for a diabetic is really not difficult. It is not necessary to use standard or "stock" diets. Each diet is individual for each patient, and their contents are determined by the following criteria, viz:

Total calories required, 35 calories per kilogram if the patient is underweight. 30 calories per kilogram if the patient is normal in weight. 20 to 25 calories per kilogram if the patient is over weight.

Gram requirements of carbohydrates, protein and fats. Protein, 2-3 to 1 gram per kilogram of weight. Carbohydrate, about twice the number of grams of protein. Fat, enough grams of fat to make up the balance of the prescribed diet.

To illustrate let us consider an actual case. A middle aged woman enters the office complaining of symptoms referable to the menopause, and routine examination reveals sugar in her urine. It is thus that more than 60 per cent of the cases of diabetes are discovered. Upon questioning we learn she has been overweight for years, possesses a good appetite, likes sweet foods, drinks considerable fluids and has polyuria. The diagnosis of diabetes is made definite upon discovering an abnormally high fasting blood sugar.

Our patient is 65 inches tall and weighs 150 lbs., which is 25 lbs. above standard normal. Dividing her total weight by 2.2 gives 68 kilograms. Since she is overweight we will figure her approximate diet at 25 calories per kilogram per twenty-four hours, a total of 1700 calories. In this case our patient is overweight so we will give 60 grams of protein. Since a rapid decrease of carbohydrate intake is not necessary we shall allow 100 grams of carbohydrate. Protein and carbohydrate yield four calories per gram, thus accounting for 640 calories daily and leaving 1060 calories to be furnished in the form of fat. Fat yields 9 calories per gram and being desirous of a decreasing weight, we shall again approximate by allowing 100 grams of fat which gives a total intake of 1540 calories.

With the beginning of the diet, the patient keeps a chart showing the sugar reaction of the urine on individual specimens collected one-half hour before meals and one hour after meals. When after an arbitrary trial period of three or four days on this routine the urine still shows sugar in most specimens voided, the daily intake of carbohydrate is either lowered 10 to 20 grams until the urine becomes sugar free or insulin is given to clear it. When the urine no longer yields sugar the patient remains on the prescribed diet from one to three weeks before any raise is attempted in carbohydrate allowance.

In the case of children or young growing adults, the problem is a matter of, first, a properly balanced as well as an adequate diet; and second, the amount of insulin necessary to supply the needs of the individual on this diet. It is imperative that these youngsters have from 1 1-2 to 3 grams of protein per kilogram of body weight. They also need a high carbohydrate diet to enable them to have a relatively low fat intake, so desirable in the prevention of early arteriosclerosis.

The arteriosclerotic diabetic is usually mild and easily stabilized both as to diet and insulin. All diabetic diets should contain adequate amounts of both mineral matter and the essential vitamins.

The diabetic patient should visit the office of his physician from twice a week to once a month, depending on the severity of his case. All patients should be seen at least once a month. On each visit the patient should bring a specimen of urine, usually the first in the morning, to be tested for sugar and acetone. He should bring the note book in which is recorded the results of the four daily urine tests and the insulin dosage. A blood sugar determination should be taken once a week until the patient is stabilized as to diet and weight and then once a month. A well trained patient not on insulin need not have a blood sugar done oftener than once every three or four months.

INSULIN

The method of determining the dosage of insulin depends upon the particular phase of diabetes that is being treated. There are four types of cases that have to be considered because the method of giving insulin differs in each:

(1) The ambulatory patient.
(2) The fever patient.
(3) The operative patient.
(4) The coma (severe acidosis) patient.

The four daily urine tests are the basis for insulin dosage for the ambulatory patient. If sugar appears after any meal, five units of insulin is given before that meal the following day. If the specimen before breakfast shows sugar, three to five units of insulin are given at 11 P. M. or 4 A. M. An average adult diabetic can begin on five units before each meal and raise or lower it until the proper dose is established. The average patient, when stabilized, can get along on two doses daily, before breakfast and before supper, by manipulation of the carbohydrate in the noon meal. Ordinarily the ambulatory patient's insulin should not be raised or lowered more than five units at a dose. Older patients with generalized arteriosclerosis especially with damaged kidneys will sometimes show blood sugar values up to 250 to 300 mg. with a sugar free urine. Frequent blood sugar determinations should be done on these patients, in addition to urine analysis. Insulin should be given cautiously to these people because coronary disease is frequently present and insulin reactions may prove fatal.

Patients suffering from diabetes are subject to the hazard of infections the same as other people. During fever the glucose tolerance of a patient may vary from hour to hour. Therefore, the usual method of giving insulin is impractical. A more flexible method must be adopted. All fever patients should have their urine tested every two or three hours and insulin dosage regulated accordingly. The diabetic patient with fever should be on a fluid diet immediately. He should be given buttermilk and orange juice, six ounces of each alternating every two hours. Skimmed milk may be substituted for the buttermilk if so desired with no change in food value. Other fluids such as water, clear broth, tea and coffee (without cream or sugar) should be given liberally. The operative patient should have stored glucose to combat acidosis. Because of enforced starvation some degree of acidosis is prone to exist in the surgical diabetic. It is best to take two or three hours in which to prepare the patient for operation. He should have an infusion of a thousand cc's of normal saline and fifty grams of glucose. At the same time twenty-five units of insulin should be given subcutaneously. As soon as the patient can take food by mouth he should be put on a fluid diet and the urine watched and insulin administered according to the same general plan as outlined for the fever patient.

Diabetic coma does not come within the scope of this paper and will be omitted.

Every diabetic taking insulin should be instructed by his physician in the danger of insulin overdosage. A normal dose of insulin may cause a reaction if followed by:

(1) Undue exercise.

(2) Omission of a meal following insulin.

(3) Vomiting the meal following the insulin.

The symptoms make their appearance suddenly—a matter of minutes—and if severe are epileptiform in character. The lesser grades of insulin shock may be readily controlled by taking the juice of a orange or two lumps of sugar by mouth. Severe insulin reactions are best treated by intravenous glucose.

Regular habits of sleep and outdoor recreation are essential. Periodic visits to the dentist and surgical removal of foci of infection as well as other measures of general hygiene should receive proper consideration. Because of the danger of diabetic gangrene, the care of the feet of elderly patients with arteriosclerosis must receive special attention. Scrupulous cleanliness and moderate massage are essential. Every effort should be made to avoid abrasions of the feet due to the trimming of corns, the cutting of toe nails or the rubbing of poorly fitting shoes. Diabetes is successfully treated when the patient is kept in a state of physical and mental vigor. Diabetics need not change their usual occupations. Children should be able to continue in school and engage in ordinary sports. It is the duty of the doctor to prevent diabetes from becoming a disability.

SUMMARY

1. The diagnosis of diabetes is easy, and depends upon the performance of two tests, which are within the reach of the general practitioner.

2. The successful treatment of diabetes depends upon the ability to interest the patient and educate him in the management of his own case. He must be taught; (1) to calculate his diet; (2) to test his urine for sugar; (3) to give himself insulin. No diabetic patient is safe until this has been accomplished. The doctor must assume the task of teaching him or another intelligent diabetic patient who is willing to undertake the task.

3. The criteria of successful treatment are: (1) A sugar free urine; (2) a normal blood sugar; (3) a weight within ten per cent below the average for age, height and sex.

4. The physician need not use "stock" diets. He must, however, know the calorie requirements of the patient who is undernourished, overweight and whose weight is normal. A plan by which to prescribe a balanced diet for each individual diabetic patient has been outlined.

5. The method of giving insulin varies with the condition to be treated.

THE USE OF THE NEWER INSULIN PREPARATIONS*

BEN H. HOLLIS, M. D.

Louisville.

The year of 1936 saw the beginning of what now appears to be a great stride in the treatment of diabetes.

Joslin has termed it the "Hagedorn era" because of the discovery of protamine insulin. The first articles were published in January of 1936, and to my knowledge, there have now been published about fifty original articles, all collaborating in a marked degree the findings of Hagedorn and associates. Namely, that this new combination has a prolonged action, gives better diabetic control, with fewer injections and less units, and a tendency to less frequent insulin reactions.

Observations on the effect of insulin and protamines had been carried on for several years by its discoverers. The effect being noted on clinical, as well as experimental, diabetics.

For several years, also, the effect of the combination of metals and insulin have been observed. Berthrand in 1926 noted that small quantities of cobalt and nickel administered with insulin increased the quantity of sugar metabolized by rabbits and dogs, although later work proved these metals had no appreciable effect on producing hypoglycemia when combined with insulin.

In 1934 and 1935 Scott and Fisher studied the relationship of zinc to insulin, having discovered that zinc was necessary in the crystallization of insulin. Their results proved that the addition of zinc to insulin decreased the absorption of the insulin and they referred to their product as Zinc-insulin. Scott and his co-workers also concluded that, since zinc appears to be bound in all insulin chemically, that probably there might exist a relationship between zinc and the formation of protamine-insulin. If this were true, then by building up a more complex combination of protamine-zinc and insulin, the action of the insulin might be still further prolonged. This has proven to be so by the work done by Rabinowitch and associates. This, then, leads us to the present used product, protamine-zinc-insulin, which, it appears, is going to supercede the original protamine-insulin.

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*Read before the Jefferson County Medical Society, January 18, 1937.

A thought that appears to be well founded is in the explanation of why some of the first protamine insulin gave rather wide fluctuating results. The explanation may be that the zinc concentration of this product varied in different batches, and since the production has not yet reached a large scale, it was possible for batches to differ as to the concentration of zinc, since no effort was made to control it. The zinc concentration is now being controlled and the products contain 0.08 mgs of zinc with protamine in a buffered solution to every 40 units of insulin.

I think it would be well to consider at this time several other insulin compounds. Gray, following after the work of Bishoff, used a combination of tannic acid and insulin. The liberation of free insulin from the precipitated insulin lasted over a period of from 12-15 hours. The effect on diabetic patients was similar to protamine insulin in maintaining normal blood sugars, requiring fewer dosages and fewer units per day. Like protamine insulin, it can be used in conjunction with regular insulin. The disadvantages are some added sting at the time of injection and subcutaneous nodules following injections.

Crystalline insulin (Stearns) when compared to regular insulin shows equal potency, slower absorption, which may last for about 24 hours. It maintains its effect on the blood sugar level for 8-9 hours, which then returns to its normal level. It is more rapid in onset of action than protamine-insulin, and slower than regular insulin.

Since the original protamine insulin is being replaced by protamine-zinc insulin, I shall not spend much time in referring to its action. In small doses, the effect of protamine insulin is not shown on the blood sugar level for an average of 3-4 hours, the effect is maintained for over 24 hours, a rise in blood sugar beginning after 15 hours. The rate of absorption of protamine insulin appears to be related to the amount of blood serum present, as well as to the size of the dose given. The larger the dosage, the more rapid the effect is seen on the blood sugar level. When injected in rabbits intravenously, the effect upon the blood sugar level was similar to regular insulin. If convulsions occurred, they appeared late.

The addition of zinc to the protamine-insulin in larger quantities than it has been found heretofore will, no doubt, raise the question about its toxicity and fate in the body. The chief route of excretion of zinc is through the feces, although if large amounts are taken it may be found in the urine. That zinc is readily excreted is proven by the failure of zinc workers to show any signs of accumulation in their blood, after many years of exposure to fumes. Experimental animals fed zinc with their daily rations showed no retardation of growth, reproduction, or normal function. The absence of glycosuria among zinc workers is probably the best argument against the inhibition of endogenous insulin action. Zinc may play an important role in insulin resistant patients and faulty metabolism of this metal may also explain the occurrence of glycosuria in infections.

Normally the pancreas contains a high zinc percentage, many, many times the amount necessary to crystallize the amount of insulin present according to Scott.

As has been stated before, the product now being used is referred to as protamine-zinc insulin. It is a white, flocculent precipitate, suspended in a fluid medium, at a ph of 7.3. The material to date has been supplied in 5 c.c. vials containing 40 units to the cubic centimeter. Because of the trend to giving only one injection to cover the 24 hour need of patients, it is likely that there will be produced also a U 80 protamine-zinc-insulin, so as to facilitate small volume in doses.

The vials should be shaken before removal of the material, so as to secure thorough mixing. The syringe should be sterile, cool, and preferably dry, so as not to increase the sticking of the fine particles to the sides of the syringe.

The injection should be made so as to insure a deposit of precipitated insulin in the subcutaneous tissues. The material now furnished is ready mixed and is stable for at least six months. There is stamped on each vial an expiration date, after which the stability is not guaranteed.

The type diet used does not differ. The greater number of observers in this country continue to use the high carbohydrate, low fat diet. The available glucose is divided among the three means, according to the time of injection of the protamine-zinc-insulin. The usual division is: 20 per cent for breakfast; 40 per cent for lunch; 40 per cent for dinner, when the injection is made one hour before breakfast. This is done to prevent a hyperglycemia following breakfast, due to the slow breaking down of the protamine-zinc-insulin with the liberation of free insulin. In some cases it has proven beneficial to divide the total diet into four meals, giving the last meal as a lunch before going to bed. This usually meets with great approval from the patients, and in the case of children, it relieves the parents' minds as to the chance for insulin reactions during the night. In those cases where there is a hyperglycemia before noon, a portion of the food may be taken from the breakfast ration and given as the bedtime dinner.

Since better control of the blood sugar level is maintained by protamine-zinc-insulin, it is problematical at this time as to the trend diets will take. By that, I mean will there be a tendency to go back to more rigid dietary measurements or will the diets be more liberal than even our approximated diets have been lately.

Sprague cites a case of a severe diabetic given one injection of protamine-zinc-insulin and fed a general hospital diet with the only restrictions being on candy and raw sugar. The diabetic control was excellent.

The duration of activity of protamine-zinc-insulin is well over 24 hours. The initial blood sugar drop is noticeable in three hours, the maximum effect lasting about 18 hours. Rabinowitch cites a case of a severe diabetic in which 50 units in a single dose maintained hypoglycemia for more than 36 hours. This case was fasting over this period, and the experiment had to be stopped because of reactions. Since the effect is over a period of twenty-four hours, the giving of more than one dose is unnecessary and hazardous because of the cumulative effect. If the fasting blood sugars are maintained by protamine-zinc-insulin, but the levels during the day are excessively high then additional doses of regular insulin will have to be resorted to at the time the peaks are encountered, and given at a different site from the protamine.

In the estimation of the dosage of protamine-zinc-insulin its cumulative effect must be borne in mind. Due to this effect the total daily requirement will be less than the requirement of regular insulin. As improvement in control is obtained then the dosage will have to be reduced. The general rule appears to be to obtain satisfactory control with regular insulin, then to substitute about 80 per cent of the total daily intake with protamine-zinc-insulin given as one dose before breakfast. For several days glycosuria may be excessive. This can be controlled by regular insulin, with an average dose of 10 units for every red sugar test. No change is made in the dosage for 3 days. If, after this time, the fasting blood sugar is excessive, the dose is increased usually by five units at a time. Subsequently, if the morning fasting levels are low, or if hypoglycemic reactions occur, then the dosage is reduced. After the fasting sugar levels have been maintained at normal limits, then frequent blood sugar tests during the day may be taken to determine the peaks or valleys.

Insulin reactions do occur with protamine-zinc insulin, although they are less frequent. When they do occur they are severe and persistent. The symptoms are more gradual than with regular insulin and are not as easy to detect. Fatigue, drowsiness, headache, slight nausea, instability, slight disturbance of memory or speech, with or without tremor or sweating, should be considered as the beginning of hypoglycemic reaction, and treatment should be instituted. In the treatment of these reactions food should be given which will be rather slowly absorbed. Preferably milk and crackers, or if sugar or glucose are used, small amounts should be used and over a long period of time. It is possible for hypoglycemic reactions to appear several hours after treatment has once been given.

It was thought in the beginning that acidosis was a contra indication to the use of protamine-zinc insulin. Lately, however, there is a gradual trend to the use of regular insulin with protamine-zinc insulin or the use of protamine-zinc insulin alone in large doses. Rabinowitch cites two cases where protamine-zinc insulin was used alone in the treatment, both were in severe acidosis. In the first case, a young girl was given 10 units of protamine-zinc insulin. The blood sugar at the onset was 588 mgs per 100 c.c. blood and the blood sugar was normal 16 1-2 hours later, and all the signs of acidosis had disappeared. In the second case, an adult man was given 40 units, his blood sugar was 416 mgs. per 100 c.c. blood, nineteen hours later it was 74 mgs per 100 c.c. blood.

Wilder has reported the use of 50 units as an initial dose in the treatment of two cases at the Mayo Clinic, with equally good results.

The use of protamine-zinc insulin in the treatment of fatty infiltration of the liver is very encouraging and the reduction of lipaemia is remarkable. Similarly, protamine-zinc insulin is a useful adjunct to regular insulin in carrying a patient through a period of infection.

In closing, may I say that the discovery of protamine-zinc insulin appears to have a marvelous future. We are dealing with a product that has more usefulness than the regular insulin. We will not be confronted with merely arranging the dosage to cover the meal which is to follow immediately, but will arrange the dosage to cover all the meals during the day.

This product has given us a new weapon with which to ward off infection, shock, coma and fatty infiltration of the liver.

Instead of having one insulin we now have two. One, the regular insulin with fast action and short duration, the second, the protamine-zinc insulin with a slower action and longer duration. There is also a possibility that one of the insulins, either zinc insulin, or crystalline insulin, may be added to take the middle position. With these added helps, poor diabetic control should be a rare occurrence.

THE USE OF THE PAVAEX IN DIABETES*

Charles M. Edelen, M. D.

Louisville.

Some fifteen or sixteen months ago Dr. Louis Herrmann of Cincinnati addressed the members of the Jefferson County Medical Society on the subject of peripheral vascular diseases. At that time he explained in detail the history of the development of the Pavaex machine. The name Pavaex being a contracture of three words, passive vascular exercise, and should be distinguished from the older and better known active vascular exercises of Allen & Buerger. At that time Dr. Herrmann impressed us with the idea that this machine would not supplant the older or more commonly used methods of treatment.

In diabetes, with its associated premature sclerosis of arterial pathways in the extremities and the ever impending danger from infection resulting in thrombosis of already narrowed arteries, we are confronted with a problem; the solution of which requires the utmost attention to minute details.

Most statistics show that twenty to thirty per cent of diabetics die of gangrene and about sixy per cent of these die within a year. The use of insulin and other improved methods of caring for the diabetic has postponed the onset of gangrene approximately ten years.

Herrmann and Reid have been very modest in their statements concerning the value of the Pavaex machine and have repeatedly stated that it is no substitute. If used, where and when indicated, along with the many other therapeutic procedures it will be of definite value however.

In treating diabetes it is understood that there must be exact cooperation between internist and surgeon. As I mentioned above the strict attention to details in caring for minor abrasions and infections of the feet will prevent more serious consequences. In the Annals of Surgery for January of this year there is an article discussing the merits of a foot treatment room in the diabetic clinic at Bellevue. Routine periodic examinations being made and careful instructions given regarding the care of callouses, nails and minor infections. A mimeographed sheet of instructions is given each patient outlining the foot care and the Allen-Buerger exercises. Since the inauguration of this prophylactic foot treatment in 1933 the prognosis in their diabetics has improved over ninety per cent.

With the early recognition of an impaired circulation in these patients they should be told that the wearing of properly fitting shoes, adequate fluid intake and removal of all foci of infection are necessary. The extremes of heat and cold should be avoided. No tobacco in any form should be allowed. Tight constricting garters and sitting for any length of time with the legs crossed are banned.

In every crisis of arterial blockage there is a certain element of spasm, the relief of which is quite a factor in influencing the ultimate outcome. Medically acetylcholine, theobromin sodium salicylate, papaverine and alcohol have been used. Vasodilatation can also be produced by electric pads, hot blankets, spinal anaesthetics and sympathetic ganglionectomy. Alcohol is about the most efficient from a medical standpoint.

Reid claims that the time honored elevation of an extremity with its impaired arterial blood supply is undoubtedly responsible for many amputations. The optimum level of circulation is usually a few inches below the heart level and at that level the patients will be most comfortable. Reid and Herrmann also call attention to the harmful effect of heat, either in the form of hot water bottles, hot packs, electric pads or cradles with electric lights. Accompanying the impaired circulation there is an impaired sensory mechanism and before one realizes irreparable harm has been done to a toe or foot with the formation of blebs or blisters; the healing of which will require additional weeks in the hospital. Heat also increases the metabolism of tissues in an extremity in which there is already a deficient circulation and this leads to harmful results. It is in this instance that the use of Pavaex is valuable. for with increase in cellular metabolism caused by heat Pavaex therapy will bring about the needed increase in blood supply.

This factor of heat in combination with the use of passive vascular exercise is not a new one but its importance was not emphasized when the work was first begun in Cincinnati. To heat the air at the present time I believe Dr. Herrmann is using a thermostatically controlled electric light bulb placed within the glass boot. The temperature should range between ninety-five and one hundred and four degree Fahrenheit.

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Naturally this use of heat in combination with passive vascular exercise overcomes vasospasm. It is a vital aid in developing collaterals and hastens the demarcation of spreading gangrene and is quite a factor in converting moist to dry gangrene.

The best results from passive vascular exercises are obtained in those patients with involvement of major arterial pathways and the least benefit is obtained in those individuals with extensive sclerosis of the arterioles of the feet and toes. In diabetics the so-called arteriolar bed is fairly good and Pavaex therapy valuable in restoring a circulatory balance.

It is not to be understood that this mechanical means of reducing environmental pressure about an extremity will obviate surgery in diabetic gangrene or allow one to become less vigilant in treating a cellulitis, but it is thought that when used properly it will tend to more conservative surgery, aid in demarcation of gangrene, convert moist to dry gangrene and promote healing.

DISCUSSION

Frederick G. Speidel: Any discussion of diabetes at the present time must necessarily revolve about the problem of arteriosclerosis. Before insulin was discovered arteriosclerosis was a less urgent problem than it is now. Between 1898 and 1914, 60.8 per cent of Joslin's patients died in diabetic coma while between 1930 and 1935 only 6.1 per cent died in coma. On the other hand arteriosclerosis in its various forms has advanced as a cause of death from 15 per cent to 47 per cent.

Recently an interesting controversy has been going on in the literature relative to the influence of high fat diets on arteriosclerosis. The argument of those who incriminate high fat diets as the cause of arteriosclerosis is built up in this way: Vascular disease is now the most serious diabetic complication. It is encountered even in juvenile diabetics. Disease of the arteries may be produced experimentally in rabbits by feeding them diets high in cholesterol. In these circumstances the blood cholesterol of the rabbits which is normally very low becomes abnormally high. Since cholesterol and neutral fat are both lipids, a high fat diet is assumed to be a high cholesterol diet. Therefore a high fat diet will cause hypercholesterolemia followed by arteriosclerosis in a human being with diabetes because a high cholesterol diet will cause hypercholesterolemia followed by arteriosclerosis in a normal rabbit.

Anyone can detect in this chain of reasoning so many weak links, so many unwarranted assumptions, so many false analogies that it is hardly necessary to deal with them in detail. The tendency has been to apply directly to man the results of experiments in cholesterol feeding without regard for the rather important difference between a normal rabbit and a diabetic man.

As a matter of absolute fact in controlled diabetes there is no correlation between the amount of fat in the diet, the level of the blood cholesterol and the degree of arteriosclerosis. There are many things about diabetes that we do not know. But one thing we do know and that is that never before in the history of mankind have young individuals been exposed to the noxious influences of diabetes per se as they are today, since their lives have been prolonged by the administration of insulin.

It may well be that simple exposure of the blood vessels to the unknown factor that causes diabetes in the first place and which causes the diabetic state to persist is a sufficient explanation of diabetic arteriosclerosis. At any rate there is not one piece of unchallenged evidence to support the contention that high fat diets cause arteriosclerosis in the diabetic.

More recently the opponents of the high fat diet have altered their argument by saying that, first, a higher carbohydrate and lower fat diet is a more normal diet and second, that by feeding more carbohydrate they increase the patient's ability to metabolize carbohydrate by stimulating the carbohydrate burning mechanism. To consider the second contention first, if this is true it, is the only instance in all nature where stimulation of a damaged organ initiates and promotes reparative processes. One of the cardinal principles of medicine has been from time immemorial "put the part at rest." Whether it be a broken leg, a damaged heart, an overwrought brain or a diseased lung we have been taught and have taught that a minimum of activity is essential for recuperation. Now in the year 1937 someone has discovered that the Islands of Langerhans of the pancreas are an exception and that when they are damaged they need stimulation. Before accepting any such doctrine it would be well to look carefully into the facts and not be beguiled by the academic prestige of the discoverer of any such exception to a universal principle.

As to the other contention that a higher carbohydrate and lower fat diet is nearer to the diet of a normal person and more pleasant to eat, there is no objeection. It is certainly our intention and our desire to make our diabetics lives as normal as possible. It must be remembered however that in general it requires larger doses of insulin and perhaps a larger number of doses per day when a high carbohydrate diet is given than when a high fat diet is given.

Furthermore, there are many diabetics who can be kept under proper control without insulin if the carbohydrate is restricted and the caloric requirement made up by fat. Many such patients would consider it a less significant departure from a normal life to live on such a diet than to take a somewhat different diet with less fat but have to take one or two hypodermics of insulin every day.

R. A. Griswold: Any surgical complication of diabetes is extremely serious since the surgical condition adds to the severity of diabetes and vice versa. The most common complication is deficiency of circulation of the lower extremities. If infection is added to this deficiency the complication is much more serious. For this reason the first two speakers should have mentioned routine examination of the circulation of the lower extremities. This is just as important as the examination of the blood and urine for sugar. These vascular complications are much easier to treat if we catch them early. No treatment can bring back life to gangrenous tissue. The pavaex treatment permits us to amputate the gangrenous tissue at a lower level. We should, however, prevent gangrene. Dr. Edelen has gone into the limitations of the pavaex. It is not a panacea for all ills but it is the greatest single factor for preventing gangrene. Even if we can get away with amputating two or three toes, this is much better than amputating above the knee. Any amputation, however, is a confession of failure of treatment. The use of the pavaex should be very carefully controlled by someone who is familiar with the examination, pathology and treatment of the peripheral circulatory system. This problem belongs more to the medical men than to the surgeons. Surgeons have taken it over because these patients have been passed on to them for amputation and surgeons do not like to amputate. The medical men should take over the conservative treatment of diseases of the peripheral circulatory system and do this work because they are better qualified for it than surgeons.

J. R. Hendon: Much has been said about the diet in diabetes, both pro and con, concerning the high fat and the low fat diet. Whatever diet is decided upon it is highly valuable to calculate the glucose-fatty acid ratio. This is simply and easily done by the use of tables devised by Dr. Lyne Smith of Louisville. Tables of formulae have been worked out by logarithmic methods and by an easy calculation you can at once arrive at a correct diet giving accurately a glucose-fatty acid ratio of 1 to 1, 1 to 2, or whatever you please.

Question by Dr. J. Keller Mack:

I would like to ask Dr. Hollis if there are many disadvantages in using protamine zinc insulin.

Irvin Abell, Jr.: The pathological changes occurring in diseases of the peripheral vascular system are immutable; and once initiated they continue to advance as long as the heart continues to beat. Just as in other clinical entities in which there is the same type of pathological change, the efficacy of the treatment is directly proportional to the stage of the disease in which it is instituted and to the sincerity with which it is followed. Of the clinical symptoms indicating early peripheral vascular disease, transitory pains experienced in the heel or ball of the foot,especially after walking, and numbness felt during exercise and ceasing with rest are the suggestive complaints which require thorough investigation. Rest pains and intermittent claudications are complained of only in the more advanced stages and indicate a serious insufficiency in the vascular supply to the threatened extremity. Objectively, palpation for temperature changes, inspection for ischemia and rubor, and identification of arterial pulsations are all simple things which should be made a part of all routine physical examinations. Hardening of the arteries of the forehead and cracked toe nails are evidences of arteriosclerotic changes in the arteries and impaired circulation in the extremities. When routine physical examination includes an estimation of the vascular supply of the extremities, early diagnosis of peripheral vascular disease undoubtedly will become more common; and surgical intervention will be relegated to that position where it can be more placidly and proudly viewed by the medical profession; namely, among the relics of medieval surgery.

B. H. Hollis (in closing): It was interesting to hear the discussion on the high fat and high carbohydrate diets, and particularly interesting to hear that on protamine insulin. The men who originated it in Canada use high fat diets. In this country a diet high in carbohydrates is used. The results with both diets have been very encouraging, especially in bringing increased blood cholesterol back to normal, as I have mentioned. The chief disadvantage of protamine zinc insulin is its infancy. We do not know a whole lot about it. Many articles have been written and there have been many investigators. Another disadvantage is that it is hard to start a patient off with protamine insulin. We don't know the exact number of units to start with. We must first get good control with regular insulin, then after good control is obtained, take 80 per cent of these units as a starting point with protamine zinc insulin. Another disadvantage is that P. Z. insulin reactions do occur. They come on slowly, but are harder to get rid of. One may have to treat a longer time to bring the patient out of the insulin reaction and he may go back into it again. Another disadvantage is occasionally we find people who are allergic to protamine and several such cases have been reported, these cases are, however, relatively rare. The newness of it, and the fact that it will bring on severe hypoglycemia seem to be the main disadvantages we know at this time.

EFFECT OF DIET ON THE OUTCOME OF PREGNANCY*

Pierce Rucker, M. D.

Richmond, Va.

A generation ago, diet in pregnancy was chiefly a matter of repression. The patient was told that she must not eat sweets, that she must not eat meats and that she ought to drink plenty of water. The science of dietetics has now entered a positive phase, and we have all sorts of diets for all sorts of purposes. We have diets to prevent or cure the anemia of pregnancy; a diet to prevent polyneuritis; diets to prevent rickets in the offspring; diets to prevent intracranial hemorrhage of the newborn; diets for proper dentition of the children; diets to reduce the incidence of puerperal infection; a diet to promote wound healing; diets to promote lactation; diets to preserve the mother's teeth, diets for maternal beauty and diets for eutocia.

Statistically the diet of the expectant mother plays a large part in maternal mortality. According to Balfour, France in the past 20 years has definitely lowered her maternal mortality by rendering generous assistance to expectant mothers. In the Netherlands where the national diet is rich in vitamins A and D the maternal mortality is extremely low. The importance of the vitamins and the mineral salts is today recognized as never before. Macomber and others are emphasizing the importance of protein in the diet of the mother, and rightly so.

Whether the diet of the mother has any influence on the size of the baby has been debated since Prochownick's first paper in 1889. Ehrenfest in an excellent article in 1919 discussed the question from many sides, enthnological, physiological, pathological and historical, and came to the conclusion that the diet of the mother could not influence the size of the child. Friedman in 1926 and Slemons and Fagen in 1927 were convinced that one could influence the size of the baby in this manner. Sontag and his co-workers in 1935 say that there is a lack of evidence of a relationship between various prenatal nutritional factors and fetal growth. An editorial in Hygeia takes the affirmative side and one in the Journal of the American Medical Association the negative side. DeLee settles the question with the following paragraph: "Voltaire said that one must continually fight the forces of errors, for no sooner has a fallacy been laid in the dust but some one raises it up again. The size of the child is not affected by the diet of the mother according to those who have carefully studied the matter. During the "hunger blockade" in Germany, Bumm said the children were as rosy as ever. Ehrenfest of St. Louis agreed."

I became interested in the Prochownick diet a number of years ago, when a colored quadripara asked in the dispensary if something could not be done to enable her to have a live baby. All her children weighed above 10 lbs. and all had died in long difficult labor. I put her on Prochownick's diet which I copied out of DeLee's text book. The patient was delivered by students on the outpatient service of a 7½ lb. live baby. At her next pregnancy she was again put on the diet at the 7th month. The patient however did not follow it as strictly as she did on the previous occasion. This time she had more difficulty and I delivered her in her home by version. The baby weighed over 8 lbs. and survived.

After this experience I formed the habit of putting my patients with contracted pelves, or with the history of difficult labors, on a Prochownick's diet at about the 34th week of pregnancy. In reviewing the literature recently I find that Prochownick recommended that the very fat patient be put upon the diet earlier. I have not done this, but have put the fat and the thin patients on the diet at the same time. My impression was that such a plan of treatment has been beneficial, but in view of the recent adverse criticism I thought it might be well to review my cases critically.

The Prochownick diet is rich in protein and low in fat and carbohydrate. The amount of fluid is limited. It contains about 1800 calories. When the patient is put on it there is a drop in weight of 2 to 3 lbs. After the initial loss the weight curve ascends but not so rapidly as it had done previously. My impression is the cervix becomes affected earlier in these cases than usual. The diet list that I give my patients both private and dispensary is as follows:

Breakfast: Small cup of coffee and one slice of toast.

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*Read before the Jefferson County Medical Society, March 1, 1937.

Dinner: Small piece of meat, or fish, or an egg, a little sauce, a vegetable prepared with fat, lettuce, a small piece of cheese.

Supper: The same as dinner, with a few slices of bread and butter, and a little milk.

Soups, pastries, potatoes, sugar and beer are forbidden.

About one pint of water daily is allowed.

I have two groups available for study; (1) a group of dispensary patients and (2) a group of private patients. The former were seen at the I. V. N. A. dispensary where their pregnancies were supervised. I had nothing to do with the delivery, but most of them came back to the clinic for a postpartum check up. The delivery data was obtained either from the patient at this time or else by inquiry by a visiting nurse. In most instances we have no information as to the size of the baby. In the group of private cases we have the weights and measurements of the babies, but the value of this group is impaired for the purposes of the present study, by the fact that labor was induced in many of these patients as they approached term.

The dispensary group consists of 26 white and 56 colored patients who were put upon a Prochownick diet in the 7th month of pregnancy. All save two colored and three white patients had some variety of contracted pelvis. Thirty-six of the colored were classed as justo minor, 10 as flat, and 8 as funnel. Among the white patients there were 12 with justo minor, 6 with flat and 5 with funnel pelves. The ages of the white patients varied from 16 to 38 years, the average being 24.23 years. The ages of the colored varied from 14 to 31 years, the average being 20.96 years. Fifteen of the white patients were primiparae. The 11 white multiparae gave the history of having had 25 children. Twenty-six of the colored patients were primiparae and the 30 colored multiparae had had a total of 59 children.

Midwives attended 5 of the patients when they were delivered. Seventeen were delivered by students in the patients' homes. One white and 4 colored women were dismissed from the clinic for various reasons and were lost sight of. The remainder were delivered in hospitals, usually by the internes. The types of delivery are shown in the following table:

Type of Delivery	White	Colored
Total	25	54 (Two sets of twins)
Spontaneous	12	40
Breech Extraction	1	1
Low Forceps	8	10
Mid Forceps	3	1
Version		1 (one of twins)
Cesarean Section	1	1

All mothers recovered. There was one stillbirth among the white women, a spontaneous delivery in the hospital, and one neonatal death, a case of low forceps after induction of labor by rupturing the membranes. There was one stillbirth among the colored, a spontaneous delivery in the home by students.

The time of the onset of labor is interesting. Two cases were induced and these are not included in this portion of the study. The expected date of confinement was calculated by Naegele's rule. While this is the best method we have, it is far from being accurate. This is illustrated in the present series by one of the negro patients who went over the calculated time four days and had a 4½ pound baby. Thirty-one colored patients went into labor before their expected time by an average of 12.45 days. Sixteen went into labor after their expected date by an average of 5.94 days. Thirteen white women went into labor ahead of time by an average of 8.6 days and 10 went over their time by an average of 6.7 days. Of 44 patients of both colors who went into labor before their expected date, 31 had spontaneous deliveries. Of 26 patients who went past their expected dates, only 17 had spontaneous deliveries. It would seem therefore that if a patient with a contracted pelvis goes into labor ahead of time she is more apt to have a spontaneous delivery. In this series 60 per cent of the colored went into labor before the expected date for their confinement. Fifty-two per cent of the white women went into labor ahead of their time.

The private patient series is open to the objection that in many cases labor was induced as the patient approached term and in many more the labor was terminated by operative means solely as a pain relief measure. These two factors must be kept in mind when studying this series. All but one were white. The primiparae numbered 153 and the multiparae 50. In the 203 cases there were 86 justo minor pelves, 74 funnel pelves and 12 flat pelves. The age of the primiparae averaged 26.3 years. The youngest was 16 and the oldest 41 years. The age of the multiparae varied from 19 to 42 years, the average being 30.6 years. The 50 multiparae had a total of 66 babies previously and of these 66, 17 were either stillborn or died in the first 10 days, a neonatal mortality of 25.75 per cent. One mother at her previous labor had a ruptured uterus, a Cesarean section and a stillborn baby.

The Prochownick diet has been criticised on the grounds that it would favor the production of toxemia. In only 10 of the 203 patients was there a systolic blood pressure of 150 or more. Fifty-six had a trace of albumen at some time in their pregnancy. None had more than a trace.

Forty-eight patients went into labor spontaneously, presumably prematurely. Of these 7 delivered spontaneously. There were three breech extractions, three versions and extractions, 14 low forceps and 20 midforceps. In 27 cases, labor was induced with bags, and of these two were delivered by breech extraction, 25 by version and extraction and four with midforceps. In 128 cases labor was induced by rupturing the membranes with 5 spontaneous deliveries, 7 breech extractions, 21 versions and extractions, 41 low forceps and 54 mid forceps. There were four sets of twins which account for the discrepancy between the number of deliveries and the number of inductions plus the spontaneous onsets.

The duration of labor when the patient went into labor spontaneously is counted from the first pain until the afterbirth is delivered. When labor is induced it is counted from the time the bag is introduced or the membranes are ruptured until the completion of the third stage. In either case the figures are taken from my code sheets. In coding, a fraction of an hour is counted as a whole hour. For instance, a labor that lasts 8 hours and 10 minutes is coded 9 hours. In every case therefore, the patient actually had a shorter labor than she is given credit for. In the primiparae the duration of labor varied from 3 to 90 hours, with an average of 12.45 hours. In the multiparae the duration of labor varied from 3 to 56 hours with an average of 9.58 hours. Two hundred and seventy-nine patients unselected except that they were not on a Prochownick diet, had an average duration of labor of 13.41 hours. The weight of 203 babies was recorded. The smallest baby weighed 1 3-4 pounds and the largest 8 pounds and 3 ounces. The average weight was 6 pounds, 10 1-4 ounces. The average weight of 296 babies of mothers who were not on a Prochownick diet was 6 pounds and 15 1-3 ounces. The total length was recorded of 204 babies. It averaged 49.8 cm., the extremes being 39 cm. and 57 cm. Three hundred and ten babies of mothers who were not on a Prochownick diet, had an average total length of 49.52 cm. These figures approximate closely those of the average white baby as given by Williams as to length, 49.64 cm. Williams gives the average weight of white babies at term as 7.32 pounds. There were no maternal deaths. One baby was born dead and four died in the first ten days, a neo-natal mortality of 2.41 per cent.

SUMMARY

Two groups of patients with contracted pelves who were put on a Prochownick diet, were studied. Twenty-six white women and 56 negroes who were followed in the I. V. N. A. Dispensary, were delivered by midwives, medical students and occasionally by a member of the attending staff of the hospital. In this group there were only two Cesarean sections, no maternal deaths and a neonatal death rate of 3.7 per cent. Fifty-two per cent of the white dispensary patients went into labor before their expected date and 60 per cent of the colored patients. Two hundred and three private patients with contracted pelves, or the history of difficult deliveries, were put on a Prochownick diet and were delivered by myself. There were no Cesarean sections, no maternal deaths and a neonatal death rate of 2.41 per cent. There was no evidence of toxemia nor kidney damage in either group. The duration of labor of the primiparae which includes a 90-hour item of a patient who was slow in going into labor after induction and who as a matter of fact had only 10 hours and 18 minutes of labor pains, was 12.45 hours and of the multiparae 9.58 hours. In my control group, chosen at random from patients who were delivered in the past two years and who were not put on a Prochownick diet, the duration of labor averaged 13.41 hours. According to Williams the average duration of labor of the primiparae is 18 hours and of the multiparae 12 hours. Harvey B. Matthews and M. G. DerBrucke found in fat women the average length of labor was 33 hours and 48 minutes in primiparae and 14 hours and 40 minutes in multiparae. In spite of the handicap of a contracted pelvis my group finished up well under the average time. Although in the majority of my cases labor was induced, the average length of the baby was almost exactly that given by Riggs for white patients at Johns Hopkins and 0.28 cm. greater than my control group. The average weight was 10 3-4 ounces less than that given by Riggs for the white babies at Hopkins and 5.11 ounces less than my control group. This would seem to indicate that Prochownick was probably correct in stating that the diet lessened the fat in the offspring.

DISCUSSION

When groups of dispensary patients and private patients selected solely on the ground of having contracted pelves or having had difficulty in a previous delivery are delivered with as good results as the unselected cases, one is naturally curious to know why it is so. A possible explanation is that when the mothers are put on a reducing diet the babies have less fat. This was the explanation that was given by Prochownick. Another factor is that more mothers go into labor somewhat prematurely and fewer go over time. A third factor, possibly in some way related to the above, is that the diet has a beneficial effect upon uterine muscle; that under its influence the cervix dilates more rapidly and the uterine muscle acts more effectively. Reeb, Hofstein and Petrequin, and Karpati who have noted such effect following the use of salt free diet, explain it on the basis of dehydration of the tissues. Lambert denies that any such action occurs, but if it does the low fluid content of the Prochownick diet may act in a similar manner. I am inclined to think however that some factor in protein metabolism plays a more important role. The uterus behaves like it does in toxic patients.

CONCLUSIONS

1. Prochownick diet is a distinct help in the management of the labors of patients with contracted pelves.

2. Patients on this diet have a tendency to go into labor prematurely.

3. The labors of these patients are distinctly shorter.

4. Some 200 babies of mothers on a Prochownick diet were of average length but had less than the average weight.

5. There was no evidence of toxemia nor kidney damage in any of the patients.

6. There was no evidence of harm to the baby.

Aerophagia in Ptosis.—Gachlinger believes that the theory of Jacquet most nearly explains the presence of air swallowing in ptosis. This theory involves the conception that most patients with ptosis are dyspeptic and that this gives rise to gastric malaise, which causes the deglutition of air. The facts that the symptom subside with the patient in the lying position, that it is temporarily cured by diet and, finally, that the wearing of a support can cause the disappearance of aerophagia in reducible ptosis lend support to this theory. The author carries this theory further and believes that aerophagia in ptosis is the consequence of insufficient pressure exerted by the abdominal muscles on the gastro-intestinal mass. It is hence partly due to the result of poor physiologic absorption of the gas, partly to disorder of the hepatic circulation and partly to insufficiency of the interior tonus.

NEPHROPTOSIS WITH CASE SUMMARIES*

LYTLE ATHERTON, M. D.

Louisville.

Synonyms: Movable, floating or misplaced kidney.

Ptosis of the kidney must not be confused with abnormal position or ectopy.

The case summaries presented for your consideration are interesting, both from a clinical and urologic standpoint, as will be shown later because frequently the symptoms are referable to a so-called chronic gastric, duodenal, gall bladder, colon, or appendix, and surgery resorted on the basis of a chain of chronic symptoms only to add insult to injury.

Hinman[1] states that a complete urological check-up is indicated, even without urinary complaint of any kind or any abnormality of the urine itself in every case of backache of doubtful origin or suspicious pain in the abdomen.

TOPOGRAPHY OF THE KIDNEY

The kidneys are retroperitoneal organs, situated on each side of the vertebral column, in shallow funnel shaped depressions called the renal fossa. The fossa on each side is bound mesially by the psoas muscle; posteriorly by the quadratus lumborium muscle; laterally by the broad abdominal muscle; superiorly by the diaphragm. The upper pole is normally covered by the 12th rib slightly to a greater extent on the left and may reach to the height of the 11th or even the 10th rib and are in close relation to the body of the vertebra and diaphragm. Anteriorly and laterally the right kidney is covered by peritoneum and the extra peritoneal surface of the adrenal gland, ascending colon, duodenum and right lobe of the liver while on the left its contact is with the stomach, spleen, pancreas, spleenic flexure of the colon, beginning of the descending colon, a few loops of the small intestine and the adrenal gland. They assume a position in this shallow niche, narrow above and broad below and its chief means of support to prevent their descensus into the lower abdomen are the capsule, their fibrous attachment and the intra abdominal pressure derived from the tone of abdominal wall and intra abdominal viscera; there is an extensive fibrous net-work arising from the true capsule of the kidney and extending outward to Gerota's capsule which serves as a support for the fatty tissue. From the outer surface of the renal fascia, fibers also pass to the wall of the renal niche posteriorly and

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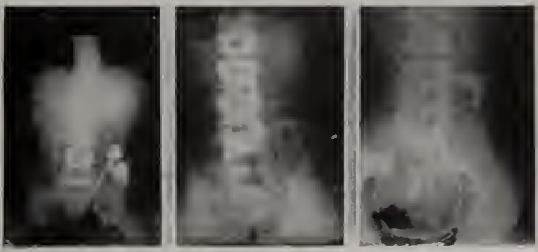
*Read before the Kentucky State Medical Association, Paducah, Octobr 5, 6, 7, 8 1936.



The three x-ray photographs are true representations of ptosis made in the standing position.

to the peritoneum and extra peritoneal surface of the colon posteriorly.

Originating from the upper pole of the kidney is a rather strong fibrous attachment to the tendinous portion of the diaphragm which maintains the kidney in its upright position and a ligamentous attachment to the duodenum known as a duodeno-renal ligament which in ptosis of this kidney, the duodenum is pulled down with a constant train of symptoms referable to the stomach and gall bladder. The renal pedicle is composed of the renal artery, vein, sympathetic nerve plexus, and lymphatics; hence it will be seen that the kidney depends upon these several factors for its normal position and support.

Morbid Anatomy

In this series of reported cases the age variations were from 23 to 55 years and two to one in favor of the female. The severity of symptoms are not always in direct proportion to the degree of displacement, or degree of ptosis of other abdominal viscera; in fact, patients having ptosis may be symptom free, especially uncomplicated cases; hence conclusions should be arrived at only after careful, complete, and intelligent urological examination. The normal respiratory excursion of the kidney is usually about 1 inch and in any excess of this motion may be considered abnormal. As classified by Glenard, first degree is when the lower pole of the kidney can be felt on deep inspiration; second degree when the kidney can be grasped near its middle on deep inspiration and held; third degree can be grasped and the hand pushed above the upper pole; and may be classified into two groups; namely, obstructive and nervous. In the obstructive type the degree of ptosis, plus other factors such as aberrant vessels, torsion of the renal artery, vein or both, symptoms of pressure are produced either by passive congestion of the kidney or pyelovenous back-flow with subsequent infection or stone formation and are conducive of symptoms principally to the urogenital tract. The second or nervous group, one observes chronic disorders referable to the stomach, duodenum, gall bladder, appendix, colon, with constipation, adhesions and finally the neurotic. The mechanism of symptoms referable to these organs are due to dragging on the duodenum, colon, tension or torsion of the renal pedicle, stasis produced by kinking of the ureter either by failure of the ureter to adjust itself in the descent of the kidney or to an aberrant vessel, without infection, and reflex transmission of impulse through the sympathetic chain affecting all abdominal viscera. Incidentally a great many of these patients are of the asthenic type with a long narrow flat chest and dependent lower abdomen, however this is not always the case as reported by Morris, Sherman and Brunton.

Diagnosis

Diagnosis is made by careful correlation of all subjective symptoms, physical findings, laboratory and complete X-ray examination including pyelograms after the retrograve or intravenous method made both in the reclining and standing position.

Treatment

Treatment may be conservative or surgical or both. In the conservative treatment it is necessary to correct as much as possible, such displacement as may be present by the proper application of lower abdominal belts or kidney pads, increasing the patient's weight and improving the general physical well being, or better still, in the conservative treatment the patient is put to bed with foot elevated 10 inches, with forced feeding, use of insulin if necessary for a period of 6 to 10 weeks and in cases complicated with infection, or stricture of the ureter proper, attention to dilation and pelvic lavage. When and if conservative methods fail, then surgical intervention is indicated, with exposure of the kidney, renal pelvis, pedicle and upper 3 inches of the ureter; freeing of all fatty tissues including the net work of sympathetic fibers about the renal pedicle and suspending up under the 12th rib. Post-operative treatment is essentially the same as other surgical cases except 3 weeks in bed with the foot elevated

Case Summaries Nephroptosis

CASE No	NAME	AGE	SEX	BLADDER PAIN BURNING FREQUENCY	PAIN OR DISCOMFORT	GAS AND INDIGESTION	CONSTIPATION	LOSS OF WEIGHT	NERVOUS MANIFESTATIONS	RELIEVED ON RECLINING	PREVIOUS OPERATIONS	CONSERVATIVE TREATMENT	SURGICAL TREATMENT	END OF RESULTS
1	S S.	24	F	+	BACK	+	+	−	+	−	+	+		IMP
2	I.W.	24	F	+	BACK	+	+	+	+	+	+	+		IMP
3	F.L.C	27	M	+	ABDM	+	+	+	+	+	−		+	IMP.
4	A J G	37	M	+	BACK	+	+	+	−	−	−	+		IMP.
5	V.M S	27	M	+	BACK	+	+	+	+	−	−			?
6	G. E.	30	F	−	BACK	+	+	+	+	+	−		+	IMP.
7	A A	23	F	?	ABDM BACK	+	−	+	+	?	+	+		?
8	P S.	51	F	?	ABDM	+	+	+	+	?	−	+		?
9	J H S	45	F	+	BACH	+	+	+	+	+	+	+		?
10	J. H.	30	F	?	ABDM	+	+	+	+	?	+	+		IMP.
11	E. C.	55	F	+	BACK	?	+	?	+	+	−	+		IMP.
12	D M R	39	F	+	ABDM BACK	−	−	−	+	+	+	+		IMP.
13	C. M.	50	F	−	ABDM	+	−	+	+	+	+		+	IMP.
14	H. S V	34	M	+	ABDM BACK	−	−	+	+	+	+		+	IMP.
15	T A	24	M	+	ABDM BACK	+	+	−	+	+	−	+		?
TOTAL	10 FEMALE 5 MALE			10	15	12	11	12	14	9	8	10	4	10

is imperative and an additional 3 to 5 weeks ambulatory treatment with avoidance of lifting, straining, exertion or fatigue and general improving of nutrition.

Conclusions

After careful consideration of all factors in ptosis of the kidney, first, symptoms referable to other abdominal viscera must not be forgotten. Second, proper diagnosis and interpretation of X-ray films is imperative. Third, in the majority of cases of ptosis satisfactory abdominal support and improvement of general hygienic measures plus routine treatment for urinary infection have given satisfactory results. Fourth, nephropexy when properly carried out is absolutely dependable.

MENTAL DISEASES AND THE GENERAL PRACTITIONER*

E. S. Dunham, M. D.

Edmonton.

Why should we, who are general practitioners, be interested in the psychopathic patient? There are many reasons, but I know one person who should not have been interested enough to make this the subject of a paper. I say unto you, I come, not with authority, but, as one of the scribes.

One of our closest neighbors, a crazy young man, gave to me, as a child, my first impression of a psychopathic patient. People talked about him in hushed tones. He had to be caught and tied, and they sent him to an asylum. He came back on a cot in a hack. People were afraid of him. It was whispered around that self-abuse caused it all. There was something terrible, horrible, about the whole thing. He was different from anyone else. He was crazy. My next impression was a hideous picture, gained in our community. This impression was made by a woman, in her thirties, standing in the road, hair down, barefooted, and with face painted and dirty. Then there was the old woman who, according to her husband, had suddenly turned gray. She had stopped using soot and lard on her hair. I don't remember the cause of the disease of other people's deaths, and little of their illness, but there was something so tragic in the lives of these people, something so different in the trouble they had, that they were looked upon with pity, and I'll admit that they were looked upon by me with fear in my childish heart. My next view of these patients was from the other side of the fence, so to speak. I saw them in the institutions where they were confined—going through a manner of treatment, for the most part, horrible, miserable creatures. There was the drug addict, always hopeless, but he didn't know it. There was the man running from the pink elephants, the young girl who should have been entering an interesting life, the old man with his sun setting in a cloud, and the young man, a junior in college, in a straight jacket.

Now, as a general practitioner, I have helped in the home when these diseases come. It does not always mean a frank psychosis, for, as typhoid may be a mild disease, so may the mental disease be a mild one. We must be interested in these conditions because the general practitioner will invariably see the patient first and last. It is a chronic condition which requires long attention, and, if there is any prevention to be done, the family physician is the one who must see to it. If we are at all interested in medicine, we must be interested in the mental cases. We see them every day. We could not escape seeing them if we wished.

We might briefly consider the family physician in relation to a classification of mental disorders. The minor types, hysteria, neurasthenia, psychasthenia, etc., all fall into the hands of the general practitioner and the chiropractor. Each of you well knows the great amount of skill and patience, careful thought and tact it requires for one of these patients. Everything organic must be ruled out. It has been said, "Know Syphilis and you know Medicine." I say, "If you have mastered the art of handling a psychopathic patient, you have mastered the art of medicine." If you can absolutely make a diagnosis of neurasthenia, you have mastered the science of medicine.

The great group of organic reaction types, those due to organic lesions, diffuse or local, are usually seen by the family physician before the psychopathology begins. The organic reaction types are those conditions which are associated with syphilis, general paresis, taboparesis, meningo-vascular syphilis, arteriosclerosis, neoplasms, trauma, chronic alcohol poisoning, senility and occasionally, organic changes following meningitis, eclampsia and encephalitis. Chief among these are paresis, senility and arterio-sclerotic dementia. Together they make up about 30 per cent of the mental diseases. The mental changes are gradual in onset. It is of utmost importance that they be recognized early enough to prevent severe business loss or the committing of crimes. They are characterized by gradual reduction of the mental capacity and ability, development of defects of memory and retention and poor general grasp of information and judgment. There is emotional instability and deterioration of the ethical feelings. Paresis is preventable if the syphilis is adequately treated. When we see a case of lues we should say to ourselves, "Here is a possible case of paresis." Those of the sclerotic and senile types may be greatly aided if seen early enough.

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*Read before the Kentucky State Medical Association, Paducah, October 5, 6, 7, 8, 1936.

Another great group which falls almost entirely into our hands is the Toxic group. These are the delirious patients. Last year, early one morning, a man came in to tell me the progress of his son, a young man about 25 years of age. I asked him how the son was. The man said, "Oh doctor, he is bad, he was delicious all night." I had him repeat, "Yes, doctor, he was delicious all night." A case of empyema. Absorption of toxins had disturbed the mental faculties. This group is caused by toxins or by poor nourishment of the nervous system. Alcohol, morphine, bromides, barbiturates, etc., fevers, especially acute infections, exhaustions, hyperthyroid and cardio-renal conditions are common causes. The condition is characterized by delirium, clouding of consciousness. Physical findings are of utmost importance and the prognosis is good with proper care. We see hundreds of these patients and never think of them as being mental cases. The Alcoholics in the group, no doubt, offer us our greatest problems. They are becoming more common. In a rural community one is not likely to meet with the problem of the barbiturates, but may meet with the bromides. Some people take very heavy doses of bromides in patent nerve medicine. No one would think mariahuana or cannibas indica could ever present itself as a problem in a rural community such as Metcalfe County. It has recently been the cause of a bank robbery there. This plant, at present, is growing both tame and wild in Kentucky.

When we come to the Manic Depressive Psychosis, the general practitioner is getting away from home. However, he is still the first one to see the patient, the first one to advise institutional care. He is the one who sees the patient when he is having a remission and is at home. The family physician must treat the rest of the family and treat the patient for any other trouble. Only three days ago I incised a felon on the thumb of a manic depressive who has been in an institution twice during the last two years. Before she left the first time she had many delusions. She often complained of a pain in her back. I believe she had a true spondelitis and the pain was not a delusion. I know the felon was not a delusion. We must be constantly on our guard not to ascribe everything to the mental condition. There are great numbers of these manic depressives, first admittances to institutions being about 11,000 annually in this country. The involutional melancholias probably belong in this group. The family physician always sees these patients, and with the modern methods of treatment, many a woman in the menopause, so far as her mental health is concerned, is being carried through a very dangerous period.

The Schizophrenic group is appalling in number. About 20,000 young men and women, adolescents, are wrecked each year and are committed because of dementia praecox. This is the disease of the split personality, the introvert who finally can no longer face the realities of life and shuts part of it out in a horrible make-believe, from which he cannot return. Precipitating factors may be of much importance in these cases. Love affairs which end unhappily, grief, etc., may be the causative factors. The introverted individual should be under observation from time to time and advice given. Who, but the family physician, is in a position to do this? It is in this great group that so often help may be given and so much good done. It may be that in time the school teachers and parents will learn more about the introverted child and more can be done at earlier ages.

We have a great group in the mentally deficient, something around one-half million idiots, imbeciles and morons in the United States. Another great group is that of the psychopathic inferiors, or those who, although they have no mental deficiencies for the usual tests, are emotionally and morally unstable. This includes a great group of criminals, drug addicts, pathological liars, swindlers, kleptomaniacs, moral degenerates, sexual psychopaths, etc. In describing one of these individuals we may say he is emotionally unstable, is not to be depended upon, acts on impulse, shows poor judgment, does unwise things and realizes his acts, but cannot properly evaluate them. These are, so many times, the individuals who keep torn up an other wise happy home.

Mental diseases have had great influence upon the history of the world. Countries have had their mad rulers. Cain, in his wrath, due to a psychopathic jealousy, slew his brother. Nebuchadnezzar left his throne and ate grass with the cattle. Judas Iscariot must have suffered from some form of mental weakness, probably he was a psychopathic inferior. The fits of epilepsy date back through all written literature.

The humane treatment of human beings, who are mentally sick, is but a recent thing. Formerly they were treated worse than criminals, being locked and chained in dungeons. When the medieval Christians built hospitals the mental patients were excluded, unless the insanity took the form of a religious fervor, in which cases the patient became a saint. Most of the patients were treated cruelly by the attendants who hoped to drive out the devil. The first asylum for mental patients in England was established in 1547 at St. Mary of Bethlehem. Strong men were put in charge, with instructions to make the inmates fear them. The name of the institution was shortened to Bedlam and it became one of the show places, people then as now having a morbid curiosity concerning the mental cases. Thomas Willis was probably the first physician to consider insanity a disease. He lived in the seventeenth century.

All the modern steps, all the humane steps, I should say, toward these patients, have come since the beginning of the nineteenth century. Phillipe Pinel of France was the first champion of the cause of more humane treatment. Through the efforts of Miss Dorthea Dix, advancement started in the United States after 1850. There were no state institutions before that time. One of the greatest steps that has been taken in Psychiatry was made by Noguchi in 1913 when he discovered that syphilis causes paresis. In late years, more attention has been paid to children. In 1922 the Commonwealth Fund established clinics for child guidance in seven of the larger cities.

The great day for psychiatry has not yet come. She has only recently had her Hypocrates and Galen. Lister, Pasteur and Jenner have not yet appeared on the scene. We are still groping in the dark, trying men before juries to decide whether or not they are insane, still herding them in barracks with very little scientific treatment, and leaving those of us who are general practitioners with little knowledge of how to prevent the breakdowns. A new day for Psychiatry may be dawning in Kentucky as plans are being made to build model institutions. Great buildings, as is the case at present, cannot be made ideal hospitals so long as they remain political pawns. It is high time that organized medicine demand the care and responsibility of these institutions. More specialists are needed, more research should be done. There should be more widespread dissemination of knowledge among the general practitioners. May the time soon come when we can answer the question of Shakespeare, "Who can minister to a mind diseased?" May we answer it by saying, "The General Practitioner?"

DISCUSSION

J. Ernest Fox, Lexington: As I was in general practice for about twenty years, I know the handicap that the general practitioner is up against in treating mental and nervous diseases. As he says, we hope for a better day in Kentucky in our state institutions. They are much overcrowded and understaffed. There is a great need for more scientific work in this state along psychiatric lines in treating these mental and nervous cases.

Arthur T. McCormack, Louisville: I want to thank Dr. Dunham for having presented this very timely paper. I am sorry there are not others here who have had a larger experience. Everybody has had an experience in this class of missed cases, because that is what so many of them are, and the bad results that we see in our hospitals are, I think, fully twenty per cent due to failure of earlier diagnosis and treatment at the proper time. We know that seventeen per cent of them come there for untreated chronic syphilis. We do not mean that it is always untreated, but it is under-treated.

I know everybody last night was tremendously inspired by Dr. Paullin's address and by his placing the responsibility for the treatment of syphilis squarely on our shoulders. We are in a fortunate fix in Kentucky in that respect, as we are in most things that we want to really do something about, because our law is ample. If every doctor will report every case of acute syphilis that comes to him to the health officer, by name or number, as the case may be, keeping his own record, then if the patient fails to return for treatment when he needs to return he can report to the health officer and he will be required to come back either to that physician or another physician for treatment until he is discharged as cured or the disease arrested. That is the requirement of the law about which there is no doubt. The Court of Appeals has upheld the law, and all we need to do is to do the job. We have failed as a profession to a very large degree to report our cases; we have failed frequently to be frank with them and tell them that they have the disease. The same thing applies in many of the other classes of conditions that in children will develop into the psychopathic in adolescent or adult age if untreated.

Another entirely different phase that is brought out splendidly by the essayist is the historic background of the treatment of mental diseases. It is interesting that for many decades Kentuckians led in the psychiatric branch of the profession. Our old institutions for the insane were quite remarkable institutions. The men who were their superintendents when appointed. were appointed for life and knew they were going to be there all the time; their assistants were there as long as they effectively did their work: there was no thought on anybody's part that any politics were involved until 1897 when a sudden reversal of form brought about an entire change in the political control of the state and all of the old group were discharged suddenly one day. Then we entered into the dark ages of psychiatry in Kentucky and our institutions have been conducted since that time by men who were just as conscientious, who would have become just as well qualified if they could have stayed there long enough, as their predecessors had been, but just about the time they really began to be qualified to do the thing somebody else came in and somebody who contributed to their coming was appointed to a place in the institution, without rhyme or reason other than that they happened to support the right man. No other qualification was considered, usually.

There was one bright spot during Governor Morrow's incumbency when for a time the institutions were placed on a merit basis.

The remarkable thing is that in spite of these handicaps the members of the profession who have gone into the institutions have done such good work when they could not have been expected to do it. General practitioners have come in as managers of these institutions and have had to manage the farm, which sometimes they managed well, to take care of the sick patients, which they have usually done as well as it could be done, and in addition to that they were supposed immediately, the day they walked in there, to be able to classify all these psychiatric cases and attend to them absolutely in accordance with the modern tendencies of the art, and that was impossible and it just has not been done.

Through the parsimonious legislation that we have had, the cowardice of our leaders in levying taxes, the failure of our people to want to pay any taxes, the institutions have been permitted to become obsolete, overcrowded, and there are at least twenty-five per cent more patients in every one of them than they can accommodate with any degree of humanity. They have become thoroughly and utterly disgraceful to the point that now the state and federal governments under the leadership of Governor Chandler and Mr. Wallis, just now for the first time have started out on a real ten-year program for the reconstruction of these institutions.

I was very happy that the Committee on Public Relations and the Council in their reports both emphasized the importance of the profession getting ready right now while these structures are being erected, to see that capable psychiatric treatment is given to these people when they get into the institutions, because it would be an idle thing to have places as beautiful as this hotel is and as luxurious as it is for the accommodation of these poor people and then have nobody in there who knew how to differentiate between their conditions and to segregate the hopeless cases from the other classes of cases. In the state institutions of Kentucky there are more than 2,000 in the asylums with the stigmata of insanity who are there for no other reason than that they are old and poor; they are no more insane, not so much so, as any group of 100 people who would be gathered together anywhere in any meeting in the state. That is a disgraceful thing to have happen and ought not to be permitted for a minute, and wouldn't be in any civilized community that properly understood its problems.

If we are going to do our full duty in this thing we will impress on our legislators, on our women's clubs, on our leaders of public opinion, the necessity for trained specialists in charge of the psychiatric work in the institutions. There will always be need for general practitioners in the institutions; there will always be need for surgeons, because the insane have just as many attacks of acute illness or chronic disease as they would have if they were not insane, and those things have to be treated too, but the diseased man needs the trained psychiatrist, he needs the man with the knack for doing that thing.

Dr. Dunham has stimulated thought on our part in regard to this great need and he has made a real contribution to the study that we need to make, to the knowledge that we need to have if we are going to do our part in helping the Commonwealth of Kentucky to solve its problems. At the present rate of increase we must understand that it is only a question of another fifty years until every sane individual in Kentucky will be supporting one insane person or criminal with the psychopathic tendencies of the criminal, and that is a burden absolutely beyond our conception. It is such an idiotic thing to continue to prepare for instead of taking the necessary steps for an increased public knowledge and an increased intelligence that will prevent the thing at its source and treat the cases that can be relieved.

The President touched on the tendency and necessity for that sort of development in his address in a provocative way that every one of us, when we read it, will be stimulated to constructive thought on our part. It seems to me that this paper of Dr. Dunham's is very timely, and I want to say parenthetically that Dr. Dunham's paper and Dr. Beatty's before him are illustrative of many of the papers on this program presented by young men in the early portion of their practice, who have made accurate scientific observations and clinical observations worthy of the best days of the art of medicine, and at the same time have introduced modern, up-to-date, scientific conceptions that we have secured that enable us to cope with disease in a way we never could do before. But there still lingers in the popular mind the feeling that any one of us can do any one of these things, and each of us has to have enough general knowledge of all the specialties to be able at least to understand the nomenclature and to deflect that portion of them that require special training to the proper care.

It is an absurd sort of thing and yet I have had some dozen of the very best friends I have in the profession come to see me in the last few months and want me to endorse them to the Governor or to the administration for appointment as superintendent of one of the institutions. I could not do it. I know some of the very finest men in the state who would like to have positions of that sort, and yet they would be just as completely ruined as many of the men who have had such positions. Some of the best loved and some of the most honored men of our profession have been made superintendents of these institutions and have been absolutely ruined mentally, morally, physically and financially by accepting a place for which they had no equipment. One of the greatest surgeons in this state became superintendent of one of our institutions a few years ago, and the only thing he knew about the institution was how to run the farm—he did that well; he had no conception of anything else at any time and was the unhappiest man while he was in and when he came out that I almost ever knew. I could duplicate that many times. From our own point of view we should not seek positions we cannot fill, and from our own viewpoint we should not endorse for positions men we know cannot fill them, particularly if they are our friends, because we are doing them far more harm than if we honestly told them they should not attempt to do that sort of thing at all but continue to do the thing they can do so successfully.

Actinocardiogram in Mitral Defects—Heckmann records the volume change of the heart during pulsation by utilizing the changes in density on the roentgen screen for the direction of the current of a photo-electric cell. This current is intensified by a three-step low frequency amplifier and operates a mirror galvanicmeter, which in turn records a pulsation curve. The author designates this method as the actinocardiogram. In this report he describes curves that he obtained in patients with mitral defects. He found that in these patients the curve is characterized by a systolic increase in volume (inverse type) with subsequent steplike decrease, slight changes in volume, slight or missing diastolic increase in volume and deep auricular depression in the curve. He explains these manifestations by the enlargement of the left auricle, the fact that the systolic filling of the auricle is thus more pronounced (partial compensation for the ventricular reduction in size), the reduced inflow of blood into the left auricle during the diastole in mitral stenosis, the systolic backflow from the left ventricle into the left auricle, and finally the backflow of blood from the left auricle into the pulmonary veins.

OFFICE TREATMENT OF RECTAL DISEASES*

Wilbur R. Houston, M. D.

Erlanger.

Proctology as a child of medicine had a tough time during its infancy and was treated as foster children usually are. For a long time its legitimacy was questioned and there were some who did not hesitate to call it a bastard. During adolescence it probably received and gave some morbid impressions with its itinerant and advertising adherents. It has now outgrown these stigmata and has taken its rightful place in the family circle.

It has been estimated that one patient in every seven is suffering from some disease, the relief of which would be assisted or entirely removed by treatment of pathological conditions discovered only upon rectal examination.

Yet rectal conditions are the most frequently self-treated diseases. There are more quack advertisements about, more nostrum remedies presented for, more irregular practitioners holding themselves out to cure hemorrhoids than any other disease. In many quarters, intelligent people who would not think of consulting an unethical practitioner for any other condition, will consult a so-called "pile specialist" because they believe that members of the regular profession do not treat rectal diseases. It is perfectly astounding to what extent this belief is held.

Most physicians are surprised and many are quite credulous when told that most rectal diseases can be treated successfully by office methods and without bed confinement, and that very seldom is it necessary to excise any of the parts.

The symptoms which should call for a rectal examination such as pain, tenderness, spasm and itching are not going to be given in detail as is usual in papers on rectal disease except to emphasize two. The first is bleeding, for obvious reasons, and the other is those symptoms such as rheumatism, neuritis, dizziness, vertigo, headache, mental sluggishness, lack of ambition and others known to be due to focal infection. More will be said of this later.

We now wish to take up the various rectal conditions amenable to office treatment.

The first is the most common of all rectal disorders, internal hemorrhoids.

A great deal has been written about the causes of hemorrhoids but, in fact they follow the Mendelian laws. The pathology of their formation is as follows: Some degree of stasis is proved to occur in the long column of blood extending from the rectum to the liver especially since these veins have no valves. This leads to a local rise in venous pressure with increased CO_2 and decreased O_2 which together with the sluggish removal of toxins tend to injure the musculature of the vein. Should this condition continue the muscle cells will soon be replaced by fibrous tissue. The occurrence of colitis and proctitis causing increased stress and strain on these vessels will cause these weakened walls to become stretched and tortuous.

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*Read before the Campbell-Kenton Medical Society, April 1, 1937.

The support of these vessels is lost by prolapse of the rectal mucosa. Success in the treatment of piles must necessarily include correction of the colitis and restoration of the normal fungi of the bowel. This seems to be best accomplished by the use of colloidal kaolin.

In treatment of the prolapsed mucous membrane we employ the injection of 5 to 7 per cent phenol in oil, or quinine and urea hydrochloride. Preferably the phenol in oil. In our injection we do not inject directly into the pile, but into the submucosa above it, causing a sterile inflammation and subsequent tying down of the mucosa to the underlying tissues. When a correct injection has been done we note the "striation sign," in which the mucous membrane is whitened out still we see the superficial vessels overlying the whitened area. The amount injected varies from 1 to 5 c.c. but must be a matter of experience to the operator rather than an arbitrary figure. Used in the above strengths these solutions do not cause sloughing of the tissues and are not painful. The ordinary case of hemorrhoids can be cured in 6 to 12 weekly treatments with no loss of time to the patient.

The injection method is also used most successfully in procidentia recti using the same technique as above, but instead of the phenol in oil, quinine and urea hydrochloride is used.

It is unfortunately true that injection is a more delicate procedure than is hemorrhoidectomy and if improperly performed may have disastrous consequences. Therefore, it is evident that those intending to practice the injection treatment should be equipped with the necessary instruments and solutions and should have learned the technique from an expert in the procedure.

In our experience this method is effective in about 85 per cent of unclassified cases. In those which do not yield to this treatment, we anesthetize according to the technique given later, clamp, tie and cut off the hemorrhoid. This is seldom necessary in more than one place.

Whatever forward strides have been made in the office treatment of rectal diseases have gone hand in hand with the development of local anesthesia.

We will now give briefly the technique for the use of local anesthesia as we use it in reducing protrusion, in fissure, fistula and cryptectomy.

Using 2 per cent procaine and with a 27 guage needle we make a skin weal about midway between the posterior anal verge and the tip of the coccyx. Then with a two inch needle we go through the weal holding the needle and syringe at an angle of about 45 degrees we inject deeply almost the two inch needle length, at a point on either side, about one-half way between the tip of the coccyx and the tuberosity of the ischium. Then forward along the outer edge of the external sphincter, first on one side then the other. In order to complete the nerve block we then insert the finger into the rectum, palpitate the coccyx, and inject two or three c.c. of the procaine on either side and in front of the tip of the coccyx. We usually use 20-30 c.c. of the 2 per cent procaine solution to give complete anesthesia. Using this anesthesia we excise internal hemorrhoids, treat fistula and fissure and do our cryptectomy.

In the treatment of fistula we try first to find the fistulous tract by gentle probing. If successful, we anesthetize as above and incise the fistula from within, outward; pack for 24 hours with a styptic mixture and try to promote granulations by local applications. When fistulae are extensive it is at times better to do the operations by steps, thus if a fistula has several external openings we incise and try to close all but one opening. When this is accomplished we then can finish the operation as above. When the external sphincter has to be cut, it is at times better to go through the muscle in two steps, thus cutting down the incidence of incontinence in these patients.

In the treatment of fissure we anesthetize as above and gently divulse the anus with the fingers, some operators use a bivalve speculum but we believe that a better job can be done with the fingers, with little or no tearing of the tissues. This done we examine the ulcer to see if there is a sinus behind it and if there is we insert a hook and excise it, extending our incision well out to the verge, cutting a few of the fibers of the external sphincter. We then use local applications to promote healing of the ulcer.

In the fistula and fissure operations and in hemorrhoidectomy we are apt to have post operative pain. Recently there has come on the market an injectable anesthetic made up of benzocaine, isocaine, procaine base, chlorobutanol and benzol alcohol in vegetable oil, which gives very good anesthesia for from eight to ten days. This relieves all post-operative pain and may be used in all painful conditions about the rectum with good results. It probably delays healing slightly, but the benefits far outnumber the disadvantages.

We now wish to discuss anal cryptitis, which is probably the most important phase of proctology to the general practice of medicine.

Many workers have given their time, thought and effort in fathoming the mysteries of focal infection. At first the efforts of most observers were directed to the search for foci in the areas connected with the upper respiratory passages. The teeth, tonsils and accessory sinuses were all tried by an unbiased jury and found guilty of harboring undesirable citizens and public enemies. It was only later that consideration was given to the urinary and gastro-intestinal systems as possible sources of focal infection.

Many workers whose attention was directed particularly to the study of the gastro-intestinal system were struck by the similarity of the symptoms of ''Autointoxication'' and those of focal infection.

Autointoxication and intestinal indigestion have long been treated by administration of cathartics, enemas and regulation of the diet. This has been good treatment in many cases but in others, it has brought only transitory relief of the symptoms.

These facts are well known and generally recognized, but what has not been generally recognized is the fact that there is at the terminal portion of the gastrointestinal tract an area which is a fertile source of focal infection.

Here are found the crypts of Morgagni located at the juncture of the anal canal and the rectum.

Normally these crypts secrete a thick mucus which serves as a lubricant to the feces. They are three to twelve in number and are recognized as small openings in the mucous membrane and usually crowned by small papillae.

When diseased, these crypts are reddened and the papillae are pinkish white, enlarged, elongated or polypoid. By anoscopic examination, one can easily identify these crypts with a right angle probe or hook. Often pus can be demonstrated in the crypts and not infrequently a sinus or blind fistula can be found.

The crypts are larger and more numerous and of greater capacity than the tonsillar crypts and frequently cause no local symptoms, but, when they do the symptoms are quite characteristic. Since the openings of these crypts are upward in direction, opposed to the fecal current it is easy to see how any foreign particle in the feces can become lodged in them and cause irritation and ulceration followed by suppuration and absorption. This is indeed a fertile source of infection and is probably the most frequently over-looked source of focal infection present in the human body.

Any patient who has a recurrence of symptoms, after removal of one source of infection, following a period of temporary relief, should have a careful investigation of the intestinal tracts since in many cases there may be two or more focal sites which must be taken into account in curing the patient. The relief of crypt infection will cure these cases.

Quite frequently patients are seen with bad teeth, infected tonsils and infected crypts. There are others, however, who have submitted to tonsillectomy, extraction of teeth with apical abscesses and have submitted to the removal of an innocent appendix all in hope of removing the infective foci.

Imagine the feelings of the patients when symptoms, relieved for a while, return, only to be permanently banished by a comparatively minor anal operation under local anesthesia. It is hoped that indiscriminate removal of anal papillae and crypts will not be indulged in but all patients with symptoms of focal infection should have the benefits of a rectal examination.

The treatment of anal cryptitis falls under two heads, operative and vaccine treatment.

Operative treatment consists of complete excision of papillae and crypts under local anesthetic.

A bent wire probe is inserted into the infected crypts, after which it is excised with curved scissors. A compression dressing is applied and held in place by a T Bandage. Bleeding which requires ligature is rarely encountered. The patient can be up as soon as he desires. Mineral oil is given nightly and the patient placed on a low residue diet. Little or no after care is required other than the above and local applications as may be required in individual cases.

One thing is certainly true about the excision of infected crypts. No organ is removed and no damage of any kind is done the patient or his physical welfare by the operation. This cannot be said of operations on any other foci, such as removal of teeth, sinuses, tonsils or the abdominal organs.

Vaccine treatment is carried out by the use of an autogenous vaccine prepared from bacteria removed from the infected crypts and found by complement fixation tests to be the most active toxin producing organism.

To this vaccine may be added stock organisms to which the patient is found sensitive.

The dose of vaccine must be kept very low, always under the allergic threshold, or the patient's symptoms will be made worse.

In closing, I wish to say that, although, this may sound somewhat radical to you, we are doing these things regularly in our office and having fair results. I believe that there is a definite need for this type of work and that these methods are much easier on the patient both physically and financially than radical surgery.

SEQUELAE OF X-RAY TREATMENT*

C. D. Enfield, M. D.

Louisville.

The title which I gave to the secretary was rather broader than I had intended and I do not mean to cover all the sequelae of Roentgen treatment but only those which are not so familiar to physicians not engaged in Radiology and which arise with greater or less frequency to plague the Radiologist, the referring physician and, of course, most of all the patient. Also I wish in behalf of myself and my confreres to dodge responsibility for certain unfortunate contretemps which are occasionally pitched in our laps and which I think do not belong there.

Severe X-ray burns I shall not touch upon as they are the result of badly judged treatment, technical errors, or perhaps occasionally unusual individual susceptibility. Certainly true idiosyncrasy to filtered X-ray must be extremely rare; otherwise, we should never be able to give effective treatment unless preceded by a biological test and a delay of some weeks. This is, as far as I know, never done routinely.

Telangectasia is probably an inescapable complication of intensive X-ray therapy and has naturally been seen more frequently in the past few years. Heavy filtration tends to reduce its incidence but most of the very striking examples I have seen have been produced with filtration on the order of one millimeter of copper plus two or three millimeters of aluminum. It is not particularly important except cosmetically, and not then except upon the arms, neck or face.

There are a few post radiation complications so rarely seen as to be familiar only to the Radiologist. One of these is the so-called static or electrical erythema. This has nothing to do with true X-ray erythema. Its mechanism is, so far as I know, obscure and it derives its name from the impression that it is due to a surface static charge in the patient's skin. It must also depend upon some unusual individual susceptibility since it is quite rarely seen. It is confined to the treatment area; comes within a few hours of treatment, usually within a few hours of the first treatment. It does not seem to be dependent upon dosage. It fades rapidly and is not followed by vesication or desquamation. Aside from a feeling of flushing in the affected area it does not produce symptoms. It is rather alarming to the patient as he naturally assumes that he has been burned. When assured that it will fade without after effects within a few days his fears are usually put at rest. It happens so rarely that it seems inadvisable to warn the patients of its possible occurrence.

A second and more common immediate after effect is the parotid swelling which frequently occurs when the parotid gland is included in the treatment field. This swelling takes place within a few hours of the first treatment; is moderately uncomfortable and is, of course, somewhat alarming. It is accompanied by a dry mouth, no visible skin changes and no change in the blood picture. It subsides, in my experience, always without complications, within three or four days even though treatment be continued over the same field.

Hoarseness subsequent to treatment over the larynx is the rule, if therapy is at all intensive. It is evidently due to a mucous membrane reaction similar to the skin reaction but more intense since the lesion for which treatment is being administered is usually crossfired through two or three fields and the neck being much smaller in diameter than the chest or abdomen, the mucous membrane does in fact receive a greater dose than any single skin field. Where possible it can be avoided by protecting the larynx with lead foil and in thyroid treatments this is practically always done. In malignancy of the larynx the patient is usually already hoarse but is apt to think that he is getting worse if his hoarseness increases on about the tenth or twelfth day. I find it advisable to warn patients that this will occur.

A distressing complication of pelvic radiation, whether in men or women, is the proctitis which in neurotic patients may become a nightmare to everyone concerned in the case. It is, like the hoarseness mentioned above, due to excessive mucous membrane reaction. It it apt to be more severe in patients with previous rectal or colonic disease. It is naturally most apt to supervene when radium has been administered coincidentally with the X-ray and it carries no implications of permanent damage or disability. During the height of the reaction, however, there is violent tenesmus, a desire to stool every few minutes, passage of mucus and occasionally blood from the rectum. On inspection there is seen only an erythema and edema of the mucosa, never in my experience ulceration. It is controlled only by opiates, perhaps best administered in the form of suppositories and reinforced by belladonna. In the milder cases a mixture of bismuth and tincture of opium will suffice.

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*Read before the Louisville Medico-Chirurgical Society, May 14, 1937.

Toxic erythema is an extremely unusual complication, definitely due to X-ray, seen perhaps only once in four or five years in a fairly active therapy practice. The rash is general; greatly resembles scarlet fever, is accompanied by a rise in temperature sometimes to one hundred and three or one hundred and four; lasts for several days and is followed by desquamation as a rule. It is a most uncomfortable complication for the Radiologist, the patient and the referring physician. X-ray treatment should, in my opinion, always be suspended when this complication supervenes and not resumed until the skin disturbance has entirely cleared and the temperature is again normal. The three cases I have seen have been accompanied by leucocytosis. These cases were of the same type, very radiosensitive sarcomata, and I had attributed the condition to rapid absorption of broken down tumor material. However, within the last few days I have heard of another case in a patient receiving routine pelvic X-radiation for an early carcinoma of the cervix which interferes with my previously held theory. This case seemed to be perfectly clear cut; was seen by a competent dermatologist who had previously seen two or three similar cases in a large clinic and there seems no reasonable doubt that it was due entirely to the X-ray treatment.

The type of skin reaction which many of you would designate as a "burn" and which radiologists prefer to call a "vigorous reaction" is now expected and discounted in all cases where heavy radiation programs are indicated. The reaction starts as an erythema, goes on to edema of the skin, and finally in about three weeks to vesication. Healing is gradual. The discomfort can be mitigated by simple alkaline lotions and cool compresses. Its extent should be fairly predictable and the likelihood of its occurrence should be explained to the patient. Recently we have been taking a release in most cases, which is certainly of psychological, if not of legal, value. It is apt to be most severe in the creases as between the buttocks; about the groin in obese individuals and beneath the breasts, if pendulous. These areas should, if possible, be avoided but oftentimes this cannot be done. Severe reactions in these parts of the body are particularly prone to occur in hot weather and incidentally are particularly distressing at such times. Where it can be done without prejudice to the final result the total radiation should probably be reduced about ten per cent during the average Louisville summer and, if it is inadvisable to reduce the total, probably the treatment program should be extended over a longer period. The effect of hot weather upon the post treatment reactions is so marked that Stafford Warren of Rochester, New York, who has been experimenting during the past three or four years with combined radiation and fever therapy, has found it advisable to close his hyperpyrexia clinic entirely during June, July and August even in the very moderate summer climate of northern New York.

This brings me to the bugbear of the physician doing radiation therapy, X-ray nausea and vomiting.

On going over the literature on this subject I was again struck by the fact that apparently this extremely disagreeable complication has never been adequately investigated by any person or group competent to determine its cause and possibly offer a rational treatment. The broadest and perhaps most sensible discussion I have found was published by Holmes and Hunter in the New England Journal of Medicine, August, 1935. They divide their cases of X-ray sickness into three groups: First, Toxic Sickness due to over rapid breaking up of tumor masses and consequent absorption of toxic material faster than the organism can handle it. Treatment: reduction of dosage, elimination, fluids, glucose, etc. Second, Psychic Sickness usually seen in neurotic individuals, persons easily nauseated, people who have previously experienced X-ray sickness. Treatment: sedatives, rush the treatment series through as rapidly as possible, keep the treatment room free from odors, or refer the patient to another radiologist. Third, True Roentgen Sickness which these authors believe due to temporary disturbance of liver function due either to radiation reaching the liver itself or the effects of radiation placing an overload on the liver; particularly severe in patients recently operated, patients on a very restricted diet, patients already nauseated. Treatment: high carbohydrate diet, candy and sweetened fruit juices between meals, glucose intravenously if necessary.

I might add in comment on this excellent article that I have occasionally given patients intensive therapy over the liver itself with a minimum of nausea; that a few patients I have treated for gastric carcinoma in the lower third with the treatment field necessarily including part of the liver have mentioned a decrease rather than increase in nausea and that nausea is frequently extremely severe where the pelvis only is radiated; where there are no great masses of tumor tissue to be destroyed, and where the liver is very carefully protected.

Other authors recommend liver extract; protection of the patient from ionized air by the use of a wire guaze mask; calcium either intravenously or by mouth; Viosterol before and during treatment; elimination of meat from the diet; administration of an excess of chlorides before and during treatment on the basis that such nausea is due to chloride retention. This somewhat paradoxical recommendation was made by Cameron and McMillan in the Canadian Medical Association Journal, August, 1924; was backed by no statistical figures and was, as far as I am able to determine, not followed up.

My own experience leads me to believe that women are much more prone to X-ray sickness than men even where the figures are corrected for the greater frequency with which women are treated over the abdomen; that it is much more frequent and severe in patients who have a history of being easily nauseated as, for instance, women who have been violently nauseated during pregnancy; persons unusually subject to sea sickness, train sickness, etc. It is my impression that it is much more common and severe in persons recently operated; patients whose state of nutrition is poor; persons with a worse than average blood picture.

That the psychic element enters very largely into it is well borne out by the common experience of having a frail, anemic, hard-boiled little woman from the mountains go through an extremely severe series without missing a meal or complaining, while perhaps in the next room there is a well nourished, generally healthy woman, who has not been operated and has had no serious recent illness nor any history of undue predeliction to nausea, vomiting her head off and refusing each day to take the next treatment.

Some years ago when we were treating with a tube in an open bowl in a small, rather badly ventilated room with an exposed high tension line which gave off definite and disagreeable odors we had a good deal more nausea than we have now even though the amount of treatment routinely given was perhaps one-fourth of the 1937 normal.

When we put the tube in a large metal cylinder, thus decreasing the amount of static about, shortened and enlarged the high tension line, used a larger room with better ventilation and took pains to air the room between treatments the situation was rather definitely improved.

Two or three particularly susceptible patients were treated with their heads entirely out of the room and consequently free from exposure to odors, but they continued nauseated.

During these years I tried various remedies including all of those mentioned and a few others. Each time I tried a new one I was rather enthusiastic about the result until I happened to run into a tough patient, then it became evident that the remedy was ineffective. From Viosterol I saw no result whatever. Calcium I gave up after a trial lasting about six months. The high carbohydrate diet I tried for a couple of years before giving it up and still feel that it may have been of some benefit. Intravenous glucose I found of no value. The ordinary gastric sedatives such as cerium oxalate, milk of magnesia, etc. I found useless unless accompanied by cocain. Arrangement of the treatment time with regard to the patient's best meal of the day was, and is, of some value. Sedatives of various kinds were tried and some of them seemed moderately useful. Among these was Dial which I first used about seven or eight years ago. I feel now that, had I persisted with it, my patients would have been better off.

In April, 1936, Popp and Binger of the Mayo Clinic first, as far as I am aware, suggested Nembutal in the staff proceedings of that institution. They followed this by an article in Radiology, February, 1937, listing one hundred and seventy-five patients of whom sixty-one per cent received complete relief, eighteen per cent partial relief, while only ten per cent were entirely unrelieved. It is my impression, but I am not sure of it, that I started use of this drug before either of these reports due to my previous fairly satisfactory experience with Dial. At any rate, I have found it by far the most useful remedy which has yet been proposed. Currently I do not prescribe it until the patient begins to show some uncomfortable amount of nausea. Oftentimes one will go through a fairly heavy series without the use of any drug and without the patient being seriously inconvenienced. When the loss of the first meal is reported to me I prescribe a capsule of one and a half grains of Nembutal to be given either one-half hour before treatment in case the patient becomes nauseated during treatment; or immediately after the treatment. As a result of this the patient usually sleeps two or three hours, remains drowsy the rest of the day but is able to retain the next meal. Should this dosage fail to produce results, a three grain rectal suppository of Nembutal is inserted immediately after treatment. This program comes much nearer giving complete relief than anything as yet tried. I do not impose any dietary restrictions, do not attempt to force fluids unless the patient is obviously dehydrated, and do not routinely interfere in any other way with the patient's habits of eating, drinking or sleeping.

Many subjective effects of X-ray are complained of, chiefly by women patients. What connection, if any, these have with X-ray treatment I do not know. Among the more common are complaints of excessive flatulence when treatment is administered over the abdomen, profound depression, drowsiness and irritability. These phenomena occur so frequently that I am inclined to believe they are in some way due to the effect of X-ray. What the mechanism or mechanisms may be I do not know.

Certainly it is true that a prolonged and intensive series of X-ray treatments is an extremely debilitating procedure comparable in its after effects to a major operation and it is the rule rather than the exception that the patient does not feel normal for six to twelve weeks. This should be understood by the referring physician and discounted to the patient. Oddly enough and contrary to the popular impression, depressing effects on the blood picture are rather rare, and particularly in patients with a history of severe uterine hemorrhage, we often see the red count and the hemoglobin rise slowly but gradually during treatment even though no hematonics are being administered.

Furunculosis of Auditory Canal—Freund has found bacteriophage a valuable agent in aborting as well as curing furunculosis of the external auditory canal in the early stages. A number of his patients have shown such prompt response to this method that he recommends the procedure before attempting any other form of treatment. Of more than fifty cases, less than than 2 per cent required surgical intervention. The others responded satisfactorily to from three to six applications, supplemented in most instances by one or two injections of the bacteriophage. Bacteriophage injections may be given either in a remote part of the body or directly into the infected area. The bacteriophage is obtained in 20 cc. vials and can be used either for topical application or for hypodermic injection. Streptococcus bacteriophage yielded poor results in the few cases tried. In contrast. The staphylococcus bacteriophage was strikingly effective in practically every case. The staphylococcus bacteriophage was helpful even in the instances in which the streptococcus failed. Furunculosis of the external auditory canal is to be differentiated from mastoiditis, aural polyps, perichondritis, exostoses, carious teeth and granulations.

THE TREATMENT OF ABSCESS OF THE LIVER*

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Mention will be made of the causation and the pathology of this condition only to clarify the picture and give the reasons for the line of treatment presented.

Two types of abscess are found in the liver, the acute embolic pyogenic type, and the more chronic tropical or amebic abscess. The latter occurs, as in the recent endemic, sometimes as a subacute or unusually acute form, resembling somewhat the embolic type.

The acute embolic abscess in the severity of its symptoms, its acute course and high mortality is the more serious. Spontaneous recovery in this form is extremely rare and only a small number recover after surgical operation, yet an increasing number respond to such treatment in competent hands.

Many of these patients are doomed from the onset for reasons which are apparent. There is a point in the clinical history of these cases where properly applied surgical intervention is effective. In view of the fact that the majority of acute pyogenic abscesses of the liver result from neglected cases of acute appendicitis followed by thrombophlebitis of the appendicular vein with thrombosis and inflammation of the portal vein, the time to apply treatment is at its inception in these structures. The old adage "an ounce of prevention is worth a pound of cure" certainly applies here.

Prompt accurate diagnosis of acute appendicitis and immediate operation will prevent this grave complication, and lower materially the mortality of appendicitis.

A few cases of portal thrombophlebitis result of inflammation of the other veins emptying into the portal system.

In every operation for removal of the appendix a double ligation of the vessels in its mesentery prevents thrombosis extending into the portal vein. Such ligatures should be placed so that the second lies some distance proximal to the first. Those forms of abscess resulting by direct extension of the inflammation process along the portal sheaths from the inflamed gall bladder of adjacent organs are more readily detected and more amenable to surgical treatment. They are also infrequent and less grave in the final outcome.

The subject of suppurative hepatitis would not be complete without mention of the extension of the inflammatory process along the portal sheaths and even into the neighboring hepatic radicles.

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Thrombi are found in the hepatic veins extending even into the larger trunks. The extension from the liver into the right lung and the development of an abscess there has been observed. The exact manner of such metastasis is not quite clear but a direct venous extension through thrombosis of communicating veins seems the most probable explanation. Embolism of the bronchial or pulmonary arteries may occur but the frequent involvement of the right lobe makes a strong argument in favor of the first contention.

Amebic dysentery and its resulting hepatic abscess has been recognized for many years as a distinct affection prior to the isolation of its causative parasite. The recent sudden outbreak of this affection once more brought it urgently to public and professional attention. The revival of interest occurred after both conditions had come to be considered as conquests of modern progressive preventive medicine.

A review of the older literature and comparison with present opinion is an interesting study. Formerly considered as a disease of the tropics it is now known to occur in any locality. The cause, its manner of entrance into the human body and pathological changes are well understood.

At some period in its course prior to extensive ulceration of the intestine treatment may prevent the formation of hepatic abscess. It may be stated categorically that at some time amebic abscess of the liver is a preventable disease. It becomes so only because of public health studies, control of water supply and repeated careful microscopic study of dysenteric conditions. The manner by which the ameba reaches the liver is debatable. The older opinion that the organism entered through the bile passages has given way to the contention that entrance takes place through the portal vein from the intestinal ulcers. In both forms of abscess the most important and successful treatment lies in preventive measures, such as previously mentioned.

The value of properly applied preventive measures out-weighs efforts at curative treatment of hepatic abscess. In fact the more accurately preventive measures are employed the less frequently will this affection be seen.

Careful attention to the following points in the treatment of acute appendicitis will result in the complete disappearance of acute hepatic abscess as a complication of this disease. Immediate operation upon making the diagnosis of appendicitis is of major importance. Careful observation at operation of the condition of the veins in the meso-appendix to determine the presence of clots within these vessels is next in importance since this is the route by which infection of the liver is most likely. Double ligation of the mesoappendix will effectively block the development of thrombosis of the portal vein and prevent the disastrous results of its continuation. No purgatives should be administered in the presence of intra-abdominal pain until sure that it is not due to appendicitis. The safest rule is the removal of the inflamed appendix in every case. An ugly diseased appendix with congested and infiltrated tissues about it is the type likely to result in liver abscess. Under modern method there is no excuse for incomplete operation.

Delay invites the development of hepatic abscess, perirenal abscess and diffuse peritonitis. In my opinion, failure to follow these simple measures accounts for the increase in the mortality which is apparent in the recent statistics. Moreover, by a strict enforcement of these rules a large reduction in the incidence of the many complications and particularly that of acute abscess of the liver will occur. The same plan is to be followed in inflammation of the veins in other portions of the intestinal tract, especially the terminal bowel. Prompt surgical treatment of an inflamed pile with similar ligation of the vein is a safe preventive procedure.

There is a wide difference in the gravity of localized suppuration near the surface of the liver extending from neighboring organs, varying with the manner of invasion, the virulence of the infecting organisms and the number and location of the colonies which cause the abscesses.

True embolism of the hepatic artery is by no means common and the lesion in the liver results from small clumps of bacteria transported from distant suppurative foci and is a part of a general septicemia. It is extremely grave. The prevention of such a condition is not easy. Efforts in this direction are carried out according to general surgical principles.

The prevention of amebic abscess begins by the exclusion of these organisms from the water and food supply, thus preventing this type of dysentery. This is a simple statement, but perfect exclusion of the causative agent from the human body requires the continuous employment of active public health and sanitary measures. When these parasites invade the intestinal mucous membrane and ulceration begins then the physicians aim is relief and cure of the lesion in the bowel. This result follows only the most painstaking and continuous cooperation on the part of both the patient and the physician. Such treatment may be prolonged through many months before relief is obtained. The measures employed are dietetic, hygienic and medicinal. The symptoms may become quiescent while the process is inactive in the bowel and may be misleading. During this stage there is still danger of hepatic involvement which increases with the severity and extent of the intestinal lesions. Early diagnosis of the presence of parasites in the intestine depends upon frequent microscopical search for these organisms upon the warm stage. The proctologists and the roentgenologist materially aid in such diagnosis. The treatises upon the diagnosis of hepatitis of suppurative type are so accessible that this portion of the subject will not be discussed. The differentiation of abscess of the liver is not always easy but the clinical course of the two types is usually sufficiently clear to determine a diagnosis of the type of abscess and its cause.

The point of interest in this discussion is the actual treatment of the patient suffering from this disease. In the acute type he may rapidly become seriously ill with sweats, chills, loss of flesh and strength. In the chronic type he loses weight gradually, in fact is thin before the abscess forms. He becomes anemic, weak and frail. When fully developed and the diagnosis of liver abscess is made the task of the surgeon is to provide operative relief.

Surgical opinion is in full agreement that removal of the pus and drainage of the abscess is necessary. There are some differences of opinion as to the time of intervention, the manner of removing the pus and in case incision is adopted in the manner of approach.

In the earlier work upon these cases the diagnosis was confirmed by aspiration before operative incision was employed. At present many surgeons have abandoned aspiration because of the uncertainty and difficulty of locating the abscess by this method. Aspiration as a curative measure is unsound, but it may in rare cases be of temporary relief and aid in bringing the patient to a safe operative condition. Open surgical operation offers in competent hands the most certain method of clearing up the diagnosis and the most complete relief of the patient. It is therefore the plan most universally adopted. Minor problems at operation are best decided with the patient on the table, and the question of abdominal or intrathoracic approach depends upon the training of the surgeon and easy accessibility. We have never found any reason for using the intrathoracic method in our cases.

DIFFERENTIATION BETWEEN MEDICAL AND SURGICAL GALL BLADDER DISEASES*

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Unlike the appendix, the gall bladder is an organ with a useful function and should be preserved so long as it can be made to carry on this function normally. The appendix is a vestigial organ which so far as we know has no function. It is allowed to remain in the body so long as it lies dormant and gives rise to no positive trouble. If it behaves badly it should be sacrificed—the only consideration being the advisability of subjecting the patient to such risk as may be incurred in performance of the operation. Not so the gall bladder, it has been proven beyond any question that its normal function is a powerful aid in the process of digestion. It possesses (a) The power of concentrating bile to 3 to 5 times its original strength and (b) Retaining it during the interim between meals then pouring it out in a rich and effective form during the digestion period. During normal function there is practically no flow of bile into the duodenum while digestion is not in progress; after cholecystectomy there is almost a continuous trickle of the newly formed liver bile into the intestine. While the ducts assume some power of retention and concentration of bile it is very slight in comparison to normal. The introduction of a duodenal tube and deposition of a stimulant such as fat, epsom salts, or sodium phosphate will produce in the normal person a fairly prompt flow of rich, concentrated bile which continues for some minutes; the same effort after cholecystestomy is entirely without such effect, a brief stimulation of thin yellow bile may result but usually no increased flow is noted.

In the study of the gall bladder a very carefully taken and recorded history is of much greater importance than the few physical findings; careful questioning regarding pain, indigestion, flatulence, stool, bowel habits, jaundice and recurrence of symptoms is of essential value in pointing, first, to whether the gall bladder itself or some other organ is at fault and second, to the most probable type of gall bladder disease present. Physical findings are of course important. The routine laboratory procedures as blood count and urinalysis seldom help materially. Of laboratory tests icteric index, stool examination, examination of the bile obtained by duodenal drainage of the gall bladder and cholecystography by the Graham Cole method are important.

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Duodenal drainage is of value for two reasons: (a) the detection of bacteria either by direct smear or by culture or of pus cells which likewise is an evidence of infection; it does not differentiate, however, whether the infection involves only the bile, which is thought by some to occur very frequently without harm, or if it actually involves the gall bladder walls and constitutes a real pathological condition. (b) The presence of crystals upon microscopic examination points almost certainly to the presence of stones. It may be contended that duodenal drainage for therapeutic purposes is of little value but there should be no question of its usefulness in diagnosis, it is employed too infrequently. Cholecystographic study, however, provides today by far the most practical and reliable study of gall bladder function. It has the advantage of being easily done by a well standardized routine which does not require special skill and practice as does duodenal drainage and should furnish uniform results if done correctly. In case of any doubt as to diagnosis however, the test should be repeated after at least a few days interval before treatment is advised.

In consideration of medical and surgical conditions of the gall bladder let us at once name as surgical those diseases about which there is little or no controversy. These are empyema, rupture, the acute "strawberry" gall bladder, obstructive jaundice from malignancy or stone in the common duct, "Calcium Milk" accumulation. The occurrence of gall stones in my opinion constitutes a surgical condition always unless there be a definite contra-indication to surgery. It is true that stones are present fairly frequently without producing enough pain to necessitate operation and by cholecystogram the gall bladder is found to function well. There is however always the possibility of obstruction, ulceration and penetration of the wall, empyema and other complications. Moreover there are practically always some digestive disturbances with associated disorder of the stomach and intestines and while at the time of examination function may appear good it must be looked upon as a progressive condition which will grow gradually worse instead of better. There is always an appreciable risk in gall bladder surgery—this is greater the more severe the condition requiring surgery. If operation is done before liver damage and disturbance to other organs has occurred the chances for subsequent good health are much better. Let us conider then that all instances of gall stones are surgical.

In view of abnormal cholecystogram where, upon repeated tests, stones cannot be shown and no evidence of crystals in the bile appears it would seem unwise to advise surgery even in the face of the most suggestive symptoms of gall bladder disease or even of fairly typical attacks of colic. A most careful observation of the stomach or colon should be made. Biliary dyskinesia which is either a purely functional disturbance of the gall bladder or else the early beginning of organic disease is not helped by surgery. This is truly a medical condition. Two types of this disorder are recognized and each is usually associated with a corresponding disturbance of the stomach. The only departure from normal in the cholecystogram is some distention of the gall bladder and a failure or delay in emptying so that sometimes dye is found retained in the gall bladder after 24 or 48 hours and after several meals have been eaten. By some this delay in emptying is not recognized even as pathological.

Chronic cholecystitis provides opportunity for the use of one's greatest skill and resourcefulness in differentiating the choice of treatment. From symptoms and physical signs one may not be at all able to judge whether or not stones are present, duodenal drainage provides a bile which may or may not show infection or crystals. The cholecystogram is usually positive, showing a faint or no visualization and no shadows suggestive of stones.

The patient in which this question arises is usually near or past middle age and there enters very strongly the question of pathology in adjacent or distant organs. Study of the gall bladder is not satisfactorily done without careful observation of the stomach and colon for associated or separate pathology. Coronary or other heart disease, hypertension or arterio-sclerosis are so similar in their manifestation that a positive assurance that they can be eliminated should be had before surgery is decided upon. The right ureter and kidney and the appendix need to be ruled out and last, organic disease of the central nervous system and the neuroses.

Having established that the gall bladder is diseased a period of observation seems to me worthy of trial before resorting to surgery. A careful regulation of the patient's diet sharply limiting fats and stimulating foods and using some form of mild saline medication and mineral water should be carried out over a period of months and another cholecystogram done. Two patients in recent experience amply justify my caution in this regard.

Mrs. W., age 35, presented typical evidences of cholecystitic disturbance and a non-functioning gall bladder while in the hospital in March 1934. The consulting surgeon advised postponement of surgery. The medical regime above described was followed. Cholecystograms repeated in October showed fair but subnormal function. In March of 1935 there was a flareup of symptoms but cholecystogram showed essentially normal function. She has been free of any but the mildest symptoms since then and remains on a reasonable diet.

Mrs. W. W., age 65, in May 1933, presented a characteristic picture of gall stone colic. Diagnosis of cholecystitis and probably stones was made. Cholecystogram showed no gall bladder function and some shadows suggestive of stones. Operation was declined. On careful medical regime she has been greatly improved but has had about two typical and prolonged attacks characteristic of gall stone colic. On re-examination this Marsh she presented the same general physical picture but definite evidence of 20 or more gall stones. She consents to operation this time. It would have been better had she been operated three years ago. Had I procured better films I may have been able to convince her then. It is probable however that the stones have largely formed during the interim.

Regarding a non-functioning gall bladder where stones cannot be demonstrated it appears that surgery is not so urgent, that a careful medical regime, and repetition of laboratory test after a few months may be carried out. This period should either allow restoration to normal function of a temporarily damaged organ or else clearly convince both patient and physician of the wisdom of more radical surgical treatment. Should this course be pursued routinely fewer disappointing results of gall bladder surgery would be obtained.

There persists a feeling among the laity and many physicians that surgery for gall bladder disease is very often disappointing and that the patient is frequently just as miserable after as before her operation. There is no doubt that surgery in the properly selected cases produces wonderful improvement if not a cure of the patient's complaints. Hasty, promiscuous and improper selection of cases on the part of the general physician and internist quite as frequently as by the surgeon himself is certainly the cause in a large measure for this fairly just criticism.

Results of Tonsillectomy in Allergic Patients. Of 1,112 patients with hay fever and asthma, Waldbott and his associates performed tonsillectomy in 228 before the onset of allergic symptoms and in 205 after allergic manifestations had developed. In the 205 allergic individuals, tonsillectomy resulted in definite relief in 1.9 per cent, temporary relief in 1.9 per cent and aggravation of the allergic symptoms in 11.6 per cent.

MEDICAL MANAGEMENT OF GALL BLADDER DISEASE*

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The medical treatment of gall bladder disease must be regarded from three viewpoints. taking into consideration, (1). The general physical condition of the sufferer. (2). The associated disorders of the intestinal tract. (3). The local disease of the biliary tract and gall bladder. This, it appears to me is the logical approach to the problem. Thus cautious we will less often attempt to correct a local disease which cannot be done without attention to associated and remote disorders in the patient's body. By this more comprehensive view, also. inadvisable surgery will sometimes be avoided.

General bodily disorders of most frequent importance are: the heart. faulty metabolism, allergy, nervous constitution of the patient and focal infection. Gall bladder disease occuring as it does chiefly in the middle or degenerative period of the patient's life often appears coincident with. or else is mistaken for. heart disease, its pain may not easily be differentiated from coronary occlusion or even anginal pain and even when a clear differentiation is possible we must temper our treatment of the gall bladder by some knowledge of the heart's stability.

It is very hopeful that recently some investigators have shown that in a number of severe cardiac cases the heart has shown improvement both clinically and electro-cardiographically following gall bladder surgery. The fact remains however, that in general medical treatment and more especially in surgery the heart must receive close attention.

Since extremely obese as well as very thin people suffer from gall bladder disease and since it is frequently desirable to bring the weight more nearly to a normal standard, any diet must take into consideration this factor. Up-building diets omitting fats and reducing diets which are still well balanced must be arranged. The failure of the body to metabolize certain foods or substances most notably Cholesterol is believed to be the basis of much of the disorder of the gall bladder and biliary tract. An increased tide of cholesterol in the blood stream has repeatedly been demonstrated in connection with gall bladder disease. Fats are notoriously poorly metabolized. Fortunately for the problem of diet some of the fatty foods are richest in cholesterol and elimination of fats also eliminates excess of this substance. The basal metabolism is frequently a very valuable laboratory guide. It is futile to try to manage a satisfactory reduction by dietary regulation alone for a patient who is a marked hypothyroid, he needs the addition of thyroid extract.

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One of the most baffling conditions with which we have to deal in this connection is sensitiveness of the patient to certain foods, or allergy. It required close observation and frequently some time for both physician and patient to detect such foods and eliminate them from the diet, and this may sometimes not be accomplished without the help of a good allergist.

Fortunately there are many gall bladder patients who are phlegmatic, with normal or subnormal nervous systems and thoroughly honest, in whom an expression of pain can be properly evaluated. There are unfortunately perhaps a greater number who are high strung, hypertensive and greatly susceptible to pain. In those we have difficulty in properly evaluating or differentiating pain. Another group in whom the clinical picture is often utterly confusing are neurasthenics, psychoneurotics and most hopeless of all, drug addicts. Our success with any patient must depend upon what type of person he is or at least upon the physician's skill in handling the nervous element.

Most important among these general factors is focal infection. There appears no longer any doubt that streptococcic infection in the teeth, tonsils, sinuses, mastoids, kidneys or elsewhere bears a definite relationship to gall bladder disease. It is estimated that approximately 50 per cent of gall bladder disease is of infectious origin, and in these cases the removal of remote foci is of first importance. We may drain an infected bile until dooms day but so long as a source for this infection remains the pathology will continue to become more deeply entrenched.

There has grown in our minds increasingly the conception that the digestive tract and the biliary tract constitute a single unit and that disorders in one part tend to disrupt the entire mechanism.

Biliary dyskinesia is a term used to express those more or less functional disturbances which seem to be dependent upon pathology or functional change in the intestinal tract. Two types of this condition are rather clearly defined. Actual gall bladder pain occurs sometimes as a result of: (1) reflex spasticity and sometimes of (2) atony and stasis in the bile tract.

In peptic ulcer, hyperacidity and other spastic disorders of the intestine there may result a retention of bile due to spasticity of the sphincter of Oddi. Recurrent attacks of pain with right upper quadrant tenderness, dyspepsia, faulty bowel function due to lack of proper bile flow, are the usual symptoms in this instance. Bland easily digestible foods, alkaline powders, belladonna and other anti-spasmodics; sedation of the nervous system, bodily and mental rest; application of heat, are the means employed for relief. The progress that may result if such a routine is persisted in faithfully over a long period of time is most encouraging. Gall bladder pain becomes infrequent and less severe, digestion and bowel function return to normal and even the X-ray examination may show a fairly normally functioning gall bladder which could not be visualized a few months previously. What appeared as a surgical problem may be satisfactorily solved by such medical management.

More resistant to medical treatment is the atonic type of biliary dyskinesia found in association with low or absent gastric acidity, slow emptying time of the stomach, and prolonged retention of dye in the gall bladder as shown by cholecystogram. This is frequently seen in ptosis of the intestinal organs with persistent delay in passage of barium from the stomach. Here is indicated a stimulating form of dietary frequently with the addition of fats such as butter, cream, and eggs, since these are found to promote rapid emptying of the gall bladder. Such a diet is also feasible because so frequently these patients are of the lean, undernourished type. Stimulating drugs such as nux vomica, hydrastis or even small amounts of alcohol are of some benefit. Peculiarly enough belladonna appears to be of some general help in this as well as in the spastic type.

Patience in following out this plan of treatment is needed. The results are usually less marked or immediate than in the former group discussed.

The condition of the colon can by no means be overlooked in biliary tract disorders. It is well known that amebic infestation has a special predeliction for the liver and typhoid bacilli though affecting a remote portion of the bowel in their acute pathology, chronically infect the bile. Of scarcely less importance are the catarrhal and mucous forms of colitis in their secondary or associated effects upon the gall bladder. Intestinal antisepsis, correction of bowel habits, cleansing irrigations of the lower bowel or whatever means may be employed for the colon must occasionally be a part of our procedure in solving the problem of gall bladder disease. The colon as an actual focus of infection must always be considered.

Always of great importance and of chief interest to the patient is the question of diet. As indicated previously it is no longer sufficient to say fats and fried foods must be omitted. If not every patient at least every classification requires separate consideration. A low cholesterol diet should probably be observed throughout Two other principles should be always observed: the diet should be built to effectively overcome constipation and stuffing or over-eating prohibited at all times. But for the obese, the lean, the allergic patients diets to suit their individual requirements must be arranged. As previously stated fats are in some instances actually beneficial. So frequently do hypertensive heart disease, and chronic nephritis occur in conjunction with gall bladder disease that diets in harmony with these disorders are frequently required.

The physician is most often and most urgently called upon to relieve the severe pain of gall bladder or gall stone attack. Morphine or other opiates are the time honored instruments for such relief. Hot formentations or applications to the abdomen may be used by the patient. A mustard or flaxseed poultice may be effective. Some interesting work has lately been done indicating that morphine, codeine or dilaudid, actually increase the pressure in the gall ducts and bladder by producing a spasm of the sphincter of Oddi. Inhalation of amyl-nitrite perles or the use of nitroglycerine are shown to immediately relax the sphincteric spasm and lower the pressure within the ducts and bladder, thus affording much more prompt and lasting relief from pain than does morphine. Opportunity has not yet presented itself for me to use this on a typical case.

Two general groups of medicines are now in general use with the claim of actually improving liver and gall bladder function. Dessicated bile when administered regularly supplies the deficit of bile and substitutes something of normal function. The proprietary tablets provided usually contain added cathartics and therefore are objectionable. It is certain that the long continued use of such tablets is not advisable whereas there could be no valid objection to using plain dessicated bile as long as is necessary. Saline or alkaline laxatives, principally sodium phosphate, are supposed to have some actual stimulating effect upon the liver cells and increase the production of bile. These may be used in small doses over a long period of time with considerable relief and apparently no harmful effects. Mineral waters taken in amounts of three to four glassfuls daily over a long period seem to have some beneficial effect.

My experience has been neither very extensive nor very encouraging with non-surgical drainage by the duodenal tube. It is an essential part of diagnostic procedure. Its place in treatment is confined chiefly to those cases where the diagnostic drainage demonstrates an infected bile. Still we are unable by this means to tell whether we deal only with organisms in the bile or whether the gall bladder wall is also affected. This difference probably determines in a large measure whether therapeutic drainage will be of great help. It seems to me if evidence of infection persists after weekly or semi-weekly drainages for six to twelve treatments we may well conclude that the tissues of the biliary tract are infected and further drainage holds little hope of clearing it up. My observation of a few cases drained regularly for months or even for more than a year have made me feel rather pessimistic regarding a prolonged series of non-surgical drainages. It has seemed more reasonable to use mild saline laxatives and mineral water daily which in reality accomplishes the same effect though more mildly and more frequently. It is true that in the tube drainage the appearance of bottles full of black viscid bile has a very salutory effect upon the patient's mind but it would appear more logical to allow the bile to pass more gradually in the other direction and have its effect daily upon the patient's bowels. In spite of this attitude though at least one patient has been under my care who, in spite of the bile containing no pus and no crystals, has improved on a series of drainage when he seemed to make no improvement on any other plan.

Regardless of our individual opinions or our disappointments at the results obtained by the various means we may employ, the fact will probably remain that the very large majority of gall bladder patients are medical rather than surgical problems. Not infrequently our most intelligent efforts are discouraging. We may confidently expect however, by careful medical management to alleviate a great majority of the patient's ills. When required to carry along patients with gall stones in whom surgery is clearly indicated the improvement in symptoms is most gratifying. In the non-functioning gall bladder where proof of stones is lacking a period of medical management covering a period of six months to three years will usually clearly classify the patient as medical or surgical. It is not unusual after such a period to find at X-ray study a fairly normal organ containing no stones. Equally often stones may be clearly demonstrated by X-ray and it becomes clearly surgical. At any rate the medical man will continue to have a problem so long as his patient has a gall bladder and he frequently still has his problem after the surgeon has removed it.

DISCUSSION

Joseph C. Bell: I will limit my remarks to a discussion of Dr. Sherrill's paper. The radiologist sees quite a large percentage of the patients with suspected liver abscesses. In about one-half of the cases with abscesses, abnormalities demonstrable by X-ray are found. In the remainder, however, no abnormalities can be detected. This is due to the fact that we are limited to the indirect signs of abscess. If the abscess lies close to the surface of the liver underneath the diaphragm, the diaphragm may be displaced upward and the presence of the abscess suspected. If it is near the lower margin of the liver a localized deformity of the margin of the liver shadow may be seen. When near the diaphragm an abscess causes localized elevation of the diaphragm with some limitation in the excursion. However, similar deformities usually without limitation of excursion are seen at times where they have no apparent clinical significance.

C. W. Dowden: Whether to directly attack the gall bladder, or to treat the individual who happens to have an abnormal gall bladder is not always a simple matter. The presence of a pathological cholecystogram with or without stones is not a reason for cholecystectomy. Many people have symptomless gall stones and unquestionably many people who have diseased gall bladders do well on medical management and in some instances a gall bladder will, radiographically, regain some of its function. It is well to remember that the gall bladder is a diverticulum in the transit system between the liver and intestinal tract and its chief, if not only function, is a storage place for the bile. While infection no doubt persists longer, there is unquestionably a type of dried up, shriveled, contracted gall bladder just as there is a small cord-like obliterative type of appendix that can scarcely be capable of producing some of the symptoms that are attributed to it. It is well known that elderly people with their metabolism and resistance lowered stand gall bladder surgery poorly. It is my belief that in practically all instances, even where symptoms are marked that these individuals should be given an opportunity to improve without surgery. With attention to diet, proper management of the colon and the nervous system, glucose to replace glycogen loss where the liver is damaged, will frequently bring about a degree of comfort and freedom from acute pain. While the results may not be all that we might hope for, still it is better that these patients be 50 per cent alive than 100 per cent dead. It is true that a prostatectomy or a timely removal of a breast may prolong life and comfort for years, but it may be just as well to leave the stone in the gall bladder or the kidney during the patient's remaining days. I have seen a number of such cases.

Another type of individual, is the one who has infrequent attacks of gall stone colic with periods of perfect health during the intervals. I have recently seen a patient 61 years old who has had five attacks of gall stone colic at intervals of seven years with no digestive disturbance of any character during the intervals. The Graham-Cole test showed a non-functioning gall bladder and three large stones. He had been advised to immediately have his gall bladder removed, and I unhesitatingly advised against this, explaining that if he did not have another attack for seven years that he would be near the end of his normal span of life and that a hypodermic of morphine would relieve him in 24 hours. I believe this was good advice.

I heartily approve of surgery where gall bladder disease is unquestionable and where discomfort after eating is persistent and especially in an individual who is otherwise stable. On the other hand, when the diagnosis of gall bladder disease is uncertain and when the nervous system is unstable, surgery is likely to do more harm than good. It is a well known fact that many of the dyspepsias associated with gall bladder disease are not relieved by cholecystectomy. In such cases, careful analysis would probably indicate that the attacks come without apparent cause and follow shock, fatigue, trauma, exposure to climate, etc. In these cases, the symptoms are not due to the gall bladder even though it may contain a stone or cannot be visualized. The gall bladder may act as a trigger, which under the stress of emotional strain or exhaustion sets off a discharge of nervous impulses which bombard the colon, pylorus, heart, etc., producing the symptoms with which we are familiar and consisting of heaviness, fullness after eating, restlessness in the whole body, tension in the stomach, heart burning, gas, palpitation, constriction of the throat, regurgitation of the food, belching, etc. These are the symptoms that we find in so-called nervous dyspepsia, or the organ neurosis without pathology of any kind. They may suggest gall bladder disease, but they do not make the diagnosis, but they do certainly suggest a careful analysis of the nervous and physical condition of the patient.

It is a recognized fact that in stout, middle aged people particularly the gall bladder disease is a common starting point for nervous dyspepsias, but in a relatively small percentage is surgery indicated. The pendulum regarding focal infection has undoubtedly swung too far. When attacks of any kind are ushered in by an acute tonsillitis it is probably wise to look upon this as a focus of infection. But where a patient has carried hyperthrophic scarred tonsils or an old chronic antraum, or an abscess tooth for years and years, it is extremely doubtful whether it has any influence on other chronic diseases such as the gall bladder, pylorus, arthritis, etc. Solomon says, "So far as the removal of the tonsils and appendix are concerned, it does not matter a great deal, but the readiness with which patients are willing to offer up their teeth is a lovely example of faith in the doctor." In remote disorders such as arthritis, nephritis, cholecystitis, etc., there is no proof that tonsils either prevent or have any especial effect in the relief of such conditions. Shock, exhaustion, exposure to weather conditions, undernutrition, etc., may all predispose to infection and may be equally essential to the disease as the so-called exciting cause. This is recognized in hay fever, tuberculosis, and other conditions that are relieved by change of climate.

In my opinion, diet and administration of glucose, and attention to the colon to establish proper elimination and overcome spasm do more in the relief of these patients than anything else. The salicylates, bile salts, urotropin, etc., have a reputed value, but one wonders whether such value is not in most instances largely psychotherapeutic. One may well heed the words of Dr. W. D. Haggard, who very aptly says, "Lookout for the thin asthenicptotic woman who may and can have organic disease, but she is the vamp of the diagnostician and the lure of the surgeon."

Irvin Abell, Jr.: While cholelithiasis is recognized as an indication for surgical intervention, there are certain conditions which render operation inadvisable. Rehfuss and Nelson carried out on such a group of patients clinical experiments in an attempt to evaluate the importance of cholesterol in the formation of gall stones. All of the patients in this group had been shown to have gall stones by x-ray, and during a period of successive years were available for roentgenological examination. They found that in those patients in whom the cholesterol content of the diet was low the number of gall stones did not increase. In a second group of patients in whom dietary restrictions were not feasible, due to the nature of their chronic disease, the number of gall stones and their size increased. This group of patients was naturally upon a diet high in cholesterol content. These men finally concluded that hypercholesterolemia need only be transient for the formation of stones within the gall bladder.

E. C. Humphrey: I saw a case of amebic infection of the liver in New York which was interesting because the various factors were almost as well controlled as in a laboratory experiment. Dr. O'Connor, who is Professor of Tropical Medicine at Columbia Medical School, developed amebic dysentery. He was treated with anayoden, and blood and mucus and dysentery stopped, but some amebae were still in stools. At this time he developed pneumonia, with amebae still in his stools, liver involvement was suspected, but the doctors hesitated to give emetine because it might affect his heart, already weakened by pneumonia. After a few days his liver began to enlarge rapidly and it was decided to give emetine. This was done and at once the liver receded to normal size and amebae disappeared from stools.

This shows the specificity of emetine for amebic infection of liver. It is probable he had a hepatitis which had not yet formed a true abscess.

R. Alexander Bate: After these excellent papers and their delightful discussions, I feel that I owe the Program Committee an apology and the Society a confession.

When I saw the title "The Medical Management of Gall Bladder Disease," instead of the "honest-to-goodness" title of "The Medical Treatment of Gall Stones," I grew suspicious.

I am now convinced of the similarity of this occurrence to a bird story, recently heard.

"Two blue-birds went to housekeeping on St. Valentine's Day, as all good birds are supposed to do.

They diligently watched the nest, till by and by they were rewarded by the vision of a beautiful blue-egg; and again upon the next day a blue egg arrived; but on the third day an egg of the same cerulean hue arrived, but it was flecked all over with little brown speckles. Mr. Blue Bird looked askance. Mrs. Blue Bird said, "Oh! that is all right, I did that for a lark."

I am sure that was true of the Committee's title.

In this short discussion we may dismiss everything except gall stones.

I believe that biochemistry offers the solution of the questions that have arisen.

We must consider, as indicated by the essayist, three phases, prophylaxis; treatment of the acute attack, or gall stone colic; and treatment of the chronic condition from the diagnosis until cholelithiasis has been eradicated.

Under prophylaxis, we must bear in mind that where calculi, hepatic or cystic, have been found in the fetus, usually enough thymic stigmata exist to implicate the thymus.

Ninety per cent of all gall stones are cholesterol.

Bilirubin, calcium in varying proportions from three or five per cent to thirty or more per cent may exist. We dismiss other constituents from this discussion.

Cholesterol is thought to owe its body synthesis to the spleen and thymus. It is found mixed with the fats, oleic acid, as esters, in every cell of the body. It has many functions, mostly good; but may be precipitated as gall stones.

Cholesterol has been shown to be closely akin to vitamin A and now we are told the sex hormones may be derived from it. Chemically it is a wax, a monatomic alcohol.

Prophylaxis enters into the care of the inherited diathesis and the prenatal care of the pregnant.

It is now apparent that the lithemic diathesis is transmitted from progeny to offspring through the ductless glands.

Chief of the endocrine glands responsible, as the parathyroid, which together with vitamin D and the ultra violet ray may be held responsible for calcium metabolism; also for the union with the amines in preventing organic acid metabolites in the system.

These metabolic errors favor the formation of other biliary compounds, the cholesterol is precipitated, bilirubin calcium or bile sand is formed because the lecithin molecule which holds cholesterol in solution has been broken up.

Acids, alkalis and bacteria are accredited with this power.

Removal of the thyroid or ovaries has been followed by gall bladder atrophy.

The mucosa lining of the adjacent duodenum, the cystic, hepatic and pancreatic ducts secrete a hormone taken up by the blood, which causes increased secretion to flow from each of these channels. Both the tone and rhythm of the contractions is strengthened and the secretion increased.

The duodenal hormone is secretin; the hormone affecting the gall bladder is choleocystokinin.

These hormones are nucleoproteins or mucin.

If biliary stasis occurs, the nucleo-proteins or mucin becomes putrid, the bile loses its antiseptic quality and nuclei may be formed upon which the supersaturated fluid precipitates its layers of cholesterol and bilirubin calcium, just as when rock candy is crystalized upon the string in the hypertonic sugar solution. The oleo-resin of fabiana imbricata or pichi best breaks down the mucin concretions.

Diet and hygiene all oxidative measure enter into the prophylaxis and environment.

Thus prophylaxis becomes a biochemic problem to be accomplished as indicated.

The medical treatment of the acute gall stone attack does not include opium derivatives of medicaments that concentrate the secretions and retard metabolism.

Hot salines both by mouth and enemata should be used. Those therapeutic measures best quieting the spasm are valerinate of amyl, dioscorea villosa and the parathyroid hormone.

Such hydrocarbons rich in lecithin, as glycerine, olive oil, etc., may be given both by mouth and rectum.

Since cholesterol is not a stone but merely a wax of the alcohol series soluble in hot soap and bile salt solutions, ether, carbonbisulphide, chloroform, benzene, hydrocarbone, acetone and hot alcohol and readily soluble in oleic acid and fluid fats which are taken up by the blood and eliminated by the epithelial cells of the gall bladder, there is no excuse for failure to use medical treatment for the relief of cholelithiasis in its every stage from diathesis to eradication of calculi.

Dr. Miller in his discussion, I believe made clear that microorganism excited the so-called lithogenic catarrh of the gall bladder after biliary antisepsis had been lost, i. e. the altered relation of biliary constituents due to infection is the pathology.

Cholecystography will make plain the calculi composed of bilirubin calcium and other insoluble material, but not cholesterol.

Hence surgery is indicated in these cases and the suppurative complications where drainage has been arrested.

Prophylaxis through the ilving cells accomplishes biochemic normality.

Electrochemical hydrolysis removes the dead cholesterol molecules.

Irvin Abell: I will limit my remarks to the paper presented by Dr. Sherrill on the surgical treatment of abscess of the liver. Our personal experience has shown the most frequent cause of intrahepatic abscess to be the suppurative lesions of the gall bladder. The history of gall bladder disease readily directs one's attention to them, they are easily approached through an abdominal incision and satisfactorily dealt with through this route. I have also seen intrahepatic abscesses due to perforating ulcers of the duodenum and of the stomach, the abscess cavity being formed partly within the liver and in part formed by the adherent tissues adjacent to the site of perforation. If we exclude the subhepatic and subphrenic type of abscesses following suppurative appendicitis, considering only intrahepatic abscesses following this lesion, practically all we have seen have been multiple and as a rule have been fatal; as well as I remember there was but one case presenting a single abscess with this causative factor and in which recovery followed the evacuation. The hepatic abscesses which have given us the greatest difficulty in recognition are those in which the antecedent history gives no particular reason to suspect abscess of the liver. We have seen a number of these following the infectious diseases, typhoid, pneumonia and influenza, and we have seen some for which no satisfactory explanation could be found for their origin. One patient presented a rather large abscess in the left lobe of the liver which upon culture showed streptococci. He recovered following the evacuation and came under observation one year later with an abscess of similar type in the right lobe of the liver and made a recovery following the evacuation of this. Careful search failed to reveal any primary focus. Diagnosis in such cases has not always been easy and some of these patients have been under observation for one or two months before diagnosis was finally made. The x-ray when giving the signs mentioned by Dr. Bell is of valuable aid; while one dislikes to employ aspiration, there are some cases in which a diagnosis can be made in no other way. In approaching liver abscess, I, like Dr. Sherrill, prefer the abdominal route when the situation of the abscess lends itself to attack by this entry. In those that are deeply situated and which point toward the dome of the diaphragm, the transpleural is the safest route. In using this means of approach we have resected the rib and sewn the parietal and visceral layers of the pleura together, packing the wound with gauze and waiting for five or six days to insure satisfactory adhesion of the pleural layers. The second stage of the operation consists in cutting through the diaphragm and the liver with the actual cautery. We have not always been successful in avoiding pleural contamination and in approximately one-half of the cases treated in this way I have had later to resect the rib for drainage of an empyema. I have been interested in the reports from the Southern Clinics regarding the treatment of solitary abscess of the liver due to amoeba. The method employed has been aspiration of the abscess and rather vigorous treatment with emetine. In the clinics which this method of treatment has been used approximately 95 per cent of cures are reported.

Armand E. Cohen: In the brief time alloted for discussion I shall not attempt to discuss Dr. Sherrill's paper but in passing I should like to take this opportunity to present my personal respects to Dr. Sherrill—an excellent surgeon, an author of reputation, and a friend.

I am particularly interested in that part of Dr. Overstreet's paper which deals with the relation of allergy to gall bladder disease. Among the common and most distressing conditions seen by the Allergist are cases of acute and chronic urticaria or hives. Such urticaria, not infrequently is associated with disturbances of the gall bladder. In this condition the allergy probably is not due to any particular food as shown by the inadequacies of both the skin tests and the so-called elimination diets. The allergy is probably due to some toxic end product of fat or protein metabolism.

Dr. A. H. W. Caulfield, of Toronto, has advocated the use of large doses of trypsin in the treatment of these cases. Other drugs suggested are: whole pancreas extracts, bile salts, sodium ricinoleated, mineral acids, mineral oil, ephedrine, benzidrine, ergot, atropine, phenobarbital and calcium.

Dr. Overstreet, may recall a patient with chronic hives who was seen by him, as well as by me and another internist but who was not relieved until she consulted a surgeon who had the temerity to remove her gall bladder despite the fact that she did not have stones or an increase in her blood icterus index. This woman since the removal of her gall bladder has had no recurrence of her hives.

This case as well as many I have seen since have shown rather convincing evidence that at least in chronic urticaria, there is a direct relation to gall bladder disfunction.

Louis Frank: I have been especially interested in abscess of the liver of amebic origin and agree with the last speaker and with those who hold that such abscesses are in most instances best treated by aspiration and emetine. This was pointed out ten years ago by Ludlow, who has had the largest experience of any one and whose opinion at that time was based on the treatment of over two hundred cases. In the first hundred cases treated by open incision the mortality was twenty-three per cent. In the last sixty cases of which seventeen were treated by open incision the mortality was eighteen per cent whereas in the other forty-three treated by aspiration and emetine the mortality dropped to four per cent. In a recent article in the Journal of the American Medical Association (December 26th, 1936, page 2117) Joslyn discussing the matter brings out very pointedly the advantages of aspiration and of emetine treatment. This was also pointed out in a recent paper by Royster before the Southern Surgical Association. Two of the cases, the slides of which were shown here tonight had been under our care, one of them had been treated with emetine but his condition being so desperate operation was also carried out. It should be remembered that the cases treated by emetine may go on to a subsidence of their symptoms though the so-called abscess does not close but lies dormant within the liver, as has been shown by autopsy, though the amebae themselves have died out. These are not really true abscesses. What we really have is hepatitis circumscribed, the area destroyed by the amebae being enclosed in a connective tissue wall in which the amebae if alive are found. The content is not true pus but broken down liver tissue mixed with blood or serum. Histologically they are not to be compared with true abscesses which are of septic origin and in the treatment of which my experience again coincides with that of the previous speaker, namely that most of the patients have died. I recall one, a single abscess in the person of a doctor, who made a very rapid recovery. He was seen quite early. I believe that where we do decide upon an open operation the best approach unless there is a definite contra-indication is posteriorly by resection of the ninth rib in the posterior axillary line at which point we will not open into the pleura but the approach being transdiaphragmatic avoiding entirely the possibility of a septic infection of the pleura. From the diagnostic standpoint we would stress the value of finger point pressure. This is not by light touch but rather a deep pressure or hammer point pressure it might be called. In liver abscesses tenderness is always elicited by such pressure.

J. G. Sherrill, (in closing): It has been my belief that hepatic emboli produce an extremely dangerous form of abscess, resulting fatally to the patient.

I do not agree with all the remarks. If you use enough care you can prevent involving entire liver with amebae. In the treatment of amebic abscess, the use of emetine in the abscess cavity is of advantage. We have also used a quinine preparation with apparent benefit. The multiple abscess is the dangerous abscess. The single abscess can be approached and if found with aspiration, can be relieved. I have always believed it better to do an open operation. In amebic abscess of the liver the infection runs a less rapid course, becomes quiescent. The chronic cases last for months, amebae die, either from their own poisons, or from the presence of suppurating bacteria. When you drain these abscesses by operation, you may find them free of amebae.

This subject is not as nearly closed as I thought it was. My chief claim is that in abscess of the liver, it is difficult to determine how much of the liver is involved.. One of the reasons I have recommended an abdominal incision and putting in a big drain is that it favors the abscess becoming solitary. As soon as you get the pus out, you can get the liver completely drained.

Africa still mocks America from her jungle. Still, she jeers, with the dense darkness of my ignorance, I confound your enlightenment. Still, with my sloth, I weigh down the arms of your industry. Still, with my supineness, I hang upon the wings of your aspiration. And in the very heart of your imperial young republic, I have planted, sure and deep, the misery of this ancient curse I bear.—From The Lower South In History; Shifting the White's Man's Burden. By Wm. Garrott Brown, The MacMillan Company, New York, 1903, p. 271.

GLYCOSURIA FOLLOWING THE INTRAVENOUS ADMINISTRATION OF GLUCOSE*

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The ever-increasing range of therapeutic usefulness of intravenous fluids has furnished the impetus for considerable investigation of late relative to the amounts as well as the qualitative and quantitative composition of the particular therapeutic agents to be employed. The result has been a diminution in tendency to use such substances haphazardly, with greater attention being directed toward supplying the exact metabolic requirements of the individual patient. Thus, the utilization of 5 per cent glucose in the relief of dehydration, of 10 per cent glucose to satisfy caloric requirements, and of 50 per cent glucose for osmotherapeutic effect, have come to be accepted practice. Saline, given either in physiological solution or as a solvent for glucose, is no longer used so indiscriminately as formerly, its particular field of usefulness being those instances in which there is loss of large quantities of salt-containing fluid from the gastro-intestinal tract.

Despite the constant increase in the use of intravenous glucose as a therapeutic agent, and the exercise of better judgment in the selection of the proper strengths, singularly little attention has been directed toward the actual technique of administration, particularly as regards the rate of flow and measures for its control.

It is no revelation that numerous hospital patients, after receiving intravenous glucose, will exhibit some glycosuria, yet most of us have remained ignorant of the frequency or magnitude of this glucose loss. Numerous experiments have been performed to demonstrate the assimilation limit of intravenously administered glucose and to determine the amount of glucose lost in the urine following the administration of glucose at absolutely constant rates of flow. Such experiments have been performed more in the spirit of scientific than of clinical investigation, and the circumstances under which the work has been done are comparable only in small measure to those which govern the administration of glucose as it is given in ordinary hospital or clinical practice.

The present investigation was originally undertaken in an attempt to gain an approximate idea of the amount of glucose which is lost in the urine following the administration of glucose as it is given in ordinary hospital practice. What is lacking in scientific method has been compensated for in part by clinical applicability.

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*Read before the Kentucky Fellows of the American College of Physicians, January 9, 1937, Lexington, and before the Fayette County Medical Society, April 13, 1937, Lexington.

Certain physiological and chemical concepts are essential to an intelligent approach to the problem at hand.

Woodyatt, Sansum and Wilder in 1915 first attempted to determine the assimilation limit of glucose supplied intravenously. Supply of glucose at a constant rate was assured by the use of a pump which delivered exact amounts of various strengths of glucose at any chosen speed. It was their conclusion that the mammalian body could metabolize .8-.9 grams of glucose per kilogram of body weight per hour indefinitely without the appearance of glycosuria. This is represented by approximately 60 grams of glucose per hour in a man of average size. At rates in excess of this glucose appeared in the urine, and practically all glucose given in excess of 2 grams per kilogram per hour was lost in the urine. Such glycosuria was accompanied by considerable diuresis, inasmuch as a minimum of 8 c.c. of water is required by the kidney for the excretion of a single gram of glucose.

Two years later Hamman called attention to the existence of two renal thresholds for glucose, designated respectively as the ascending and descending thresholds. Glycosuria will not occur until the concentration of glucose in the blood exceeds the ascending threshold commonly accepted as 180 mg. per cent. Once this concentration of glucose is exceeded, however, the kidney assumes a different and lowered threshold, so that glycosuria continues until the concentration of glucose in the blood has approximated the normal blood sugar level of 80 to 120 mg. per cent.

Finally, in estimating glycosuria of small degree, it must be borne in mind that small amounts of reducing substances are a constituent of normal urine. Peters and Van Slyke state that such substances are commonly present in the urine in amounts of 0.3-1:5 grams in the course of 24 hours.

METHOD

The patients employed in this experiment were not selected, but represent the general run of medical and surgical cases, acutely ill, convalescent, pre- and post-operative, etc. The volume of glucose administered in each instance was 1000 c.c., given either once or twice daily. The strengths vary. The apparatus employed was an ordinary Kelly bottle without any form of drip apparatus. In certain groups measurements were made of the calibre of the needle and the height at which the container was suspended, since these are the common variables through which the rate of flow is roughly controlled. It immediately became apparent that these factors did not adequately govern the rate of flow where any degree of accuracy or constancy was required. Two solutions of equal strength hung at the same height in different individuals, or in the same individual at different times, would enter the vein at greatly varying rates. Even in the course of a single intravenous administration the rate would vary greatly from time to time. With certain exceptions to which attention will be directed subsequently a 20 gauge needle was used throughout. A 22 gauge needle proved unsatisfactory for general use due to the excessively prolonged period of administration which it caused. Urine specimens were collected from the beginning of administration of glucose throughout the period of glycosuria and were subjected to quantitative analysis for glucose. When glucose was given twice daily 24-hour specimens of urine were obtained.

RESULTS

The results are subdivided into a number of groups, depending on the amount and strength of glucose and the duration of administration.

Each of ten patients was given 1000 c.c. of 5 per cent glucose. The average height at which the containers were hung was 32 inches. The average time of administration was 42 minutes. The average loss of glucose per patient was 4.74 grams, or 9.48 per cent of the total amount administered.

Each of three patients was given 1000 c.c. of 5 per cent glucose twice daily. The average administration time was one hour and forty minutes, with an average glucose loss of 9.79 grams, or 9.79 per cent of the total amount administered.

Each of three patients was then given 1000 c.c. of 5 per cent glucose in such a manner as to prolong the administration over a period of two hours and twenty-four minutes. In this group the average loss of glucose was 2.64 grams, or 5.28 per cent of the total amount given.

Thus it is seen that in patients receiving 5 per cent glucose the degree of glycosuria is slight, even though administration may be rapid, and it would appear that little is to be gained by instituting measures to prolong or stabilize the rate of flow. Results obtained with 10 per cent glucose offer an interesting and a rather marked contrast.

Each of ten patients was given 1000 c.c. of 10 per cent glucose. The average height at which the containers were hung was 30.5 inches. The average time of administration was 41.5 minutes. The average loss of glucose per patient was 25.2 grams, or 25.2 per cent of the total amount.

Each of seven patients was given 1000 c.c. of 10 per cent glucose twice daily. Average administration time was 54.6 minutes, with an average loss of glucose of 47.66 grams, or 23.83 per cent of the total amount administered.

Finally, employing a 22 gauge needle, each of six patients was given 1000 c.c. of 10 per cent glucose at an exceedingly slow rate. The average time of administration in this group was four hours and thirty-four minutes, with an average glucose loss of only one gram per patient, or 1 per cent of the total amount administered.

The above results are tabulated in the accompanying chart. The results obtained following the administration of 10 per cent glucose seem to indicate quite clearly the need of the addition of some variety of drip bulb so as to insure a slow and uniform rate of flow.

CONCLUSIONS

(1) When 5 per cent glucose is administered intravenously in the ordinary fashion, inconsequential amounts are lost in the urine, regardless, within limits, of the rate of flow.

(2) The administration of 10 per cent glucose as ordinarily performed occurs at an excessively rapid rate, in consequence of which considerable quantities of glucose are lost in the urine. Considerable fluid may be eliminated as a result of the diuresis caused by such glycosuria.

(3) The 20 gauge needle is the most satisfactory size for the intravenous administration of fluids.

(4) The rate of flow of 10 per cent glucose should always be controlled by the interposition of some variety of drip apparatus, since neither the size of the needle nor the height of the column of fluid serves satisfactorily as a means of regulating the speed of flow.

	Strength Glucose Admin.	Grams Glucose Admin.	Average Duration of Admin.	Height of Column of Fluid	Grams Glucose Lost in Urine	Per cent of Glucose Loss
1000 c. c. Glucose Given Once Daily	5%	50 Grams	42 Min.	32 Inches	4.74 Grams	9.48%
	10%	100 Grams	41.5 Min.	30.5 Inches	25.2 Grams	25.2 %
1000 c. c. Glucose Given Twice Daily	5%	100 Grams	100 Min.		9.79 Grams	9.79%
	10%	200 Grams	54.6 Min.		47.66 Grams	23.83%
1000 c. c. Glucose Given Once Daily at Very Slow Rates	5%	50 Grams	144 Min.		2.64 Grams	5.28%
	10%	100 Grams	274 Min.		1.0 Grams	1.00%

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NEXT MEETING BEREA, SEPTEMBER 6-9

COUNTY SOCIETY REPORTS

Letcher: The Letcher County Medical Society assembled in the dining room of the Jenkins Club House, Tuesday night, May 25, at 7:30 p. m.

The following physicians were present: J. S. Newman, McRoberts; T. M. Radcliffe, Kona; B. C. Bach, Whitesburg; T. M. Perry, Burdine; J. E. Johnson, E. F. Sheppard, J. Y. Harper, Jenkins; J. E. Stanfill, Dunham; Herbert Duncan, McRoberts; J. B. Weaverly, Jenkins, and R. D. Collins, Whitesburg.

The meeting was called to order by the president, J. E. Stanfill; after the reading of the minutes of the previous meeting, the program of the evening was called for. J. Y. Harper read a most interesting and valuable paper, entitled, "Fractures of the Femur and Their Treatment." This subject was discussed at length by the doctors present, with special emphasis by E. F. Sheppard.

After the scientific program, sandwiches and hot coffee were served, the host being J. E. Stanfill, the president.

The next meeting will be held in Whitesburg with the following topic for a paper and discussion by the society, "State Medicine." No other business. The society adjourned at 10 p. m.

R. D. COLLINS, Secretary.

Grant: The Grant County Medical Society met in regular session May 19, 1937 at the office of the Health Department with the following members present: Drs. Davis, Abernathy, Mann, George, C. M. Eckler and Harper. Dr. Clinkscales was a guest of the meeting.

J. T. Davis, our vice-president, opened the meeting in the absence of Dr. C. A. Eckler, who was in Christ Hospital. Minutes of the previous meeting were read and approved. Correspondence read and from this a motion was made for our usual June meeting to be held in conjunction with the Licking Valley Medical Association to be held June 10th, at Williamstown.

C. M. Eckler and Dr. Ellis were appointed as a committee for arrangements concerning the meeting place and luncheon of the Licking Valley Association.

C. N. Heisel of Covington, who specializes in ear, nose and throat work, gave an unusually practical talk on Common Phases of Ear Work, including such things as foreign bodies of the ear and eye, glaucoma and peri-tonsillar abscess. After this talk, those present asked questions and discussed the above talk, which was very common in a practitioner's work.

Meeting closed in usual fashion, by our vice-president, Dr. Davis.

P. E. HARPER, Secretary.

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Concerning the treatment of diarrhea, "If the weight remains stationary, it is an indication that loss of substance is occurring through the stools, mostly in the form of alkaline salts. To equalize this loss of substance, the diet must be increased, but in such a way as to avoid causing fermentation. This may be done by adding dextri-maltose and preparations of protein to the food, increasing the calories until the infant is taking 160 calories per kilo. of body weight."—*H. L. Ratnoff, Nutritional disturbances, Arch. Pediat., 41:771, Nov. 1924.*

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Regarding the treatment of diarrhea, "In our experience, the most satisfactory carbohydrate for routine use is Mead's dextrimaltose No. 1."—*F. R. Taylor: "Summer Complaints," Southern Med. & Surg., pp. 555-559, Aug. 1927.*

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"Again, following the teaching of the originator of protein milk, the carbohydrate added should be the one that is most easily assimilated. Dextri-maltose is the carbohydrate of choice."—*R. A. Strong: The diarrheas of early life, Mississippi Doctor, 14:9-15, Sept. 1936.*

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"After the preliminary short period of starvation, protein milk should be used. . . . When the diarrhea has been sufficiently checked, dextrimaltose may be added and gradually increased until from 4 to 6 tablespoons are being used."—*W. L. Denney: Acute nutritional disturbances of infancy, Univ. West. Ontario M. J., 2:192-137, April 1932.*

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In diarrhea, "Carbohydrates, in the form of dextri-maltose, well cooked cereals or rice, usually can be handled without trouble."—*B. B. Jones: A discussion of some of the commoner types of infantile diarrhea, and the principles underlying the diets used in their treatment, Virginia M. Monthly, 55:411-415, Sept. 1928.*

In the treatment of dysentery, "As a useful supplement, Bessau's thick rice water with 1 to 5 per cent dextrimaltose may be used, or soy bean milk, which also may serve as main nourishment in the rare cases of hypersensitiveness to cow's milk."—*O. Willner: Dysentery, in The Practitioner's Library of Medicine & Surgery, D. Appleton-Century Co., Inc., New York, 1935, vol. 7, p. 371.*

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In cases of diarrhea, "For the first day or so no sugar should be added to the milk. If the bowel movements improve carbohydrates may be added. This should be the one that is most easily assimilated, so dextri-maltose is the carbohydrate of choice."—*W. H. McCaslan: Summer diarrheas in infants and young children, J. M. A. Alabama, 1:278-282, Jan. 1932.*

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"When there has been a tendency to looseness of the bowels, a form of sugar which ferments but slightly, such as dextrimaltose, may be employed."—*W. Sheldon: The artificial feeding of infants, Practitioner, 134: 415-428, April 1935.*

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In treating chronic diarrhea, "You do not need to starve such patients, but you select a diet of dried protein milk with the addition of dextrimaltose given in small three-hourly feeds, or soured milk, or an ordinary half-cream dried milk, or a whey mixture."—*R. Hutchison: Lectures on Diseases of Children, ed. 7, William Wood & Co., Baltimore, 1936, pp. 26, 65, 71-72, 76.*

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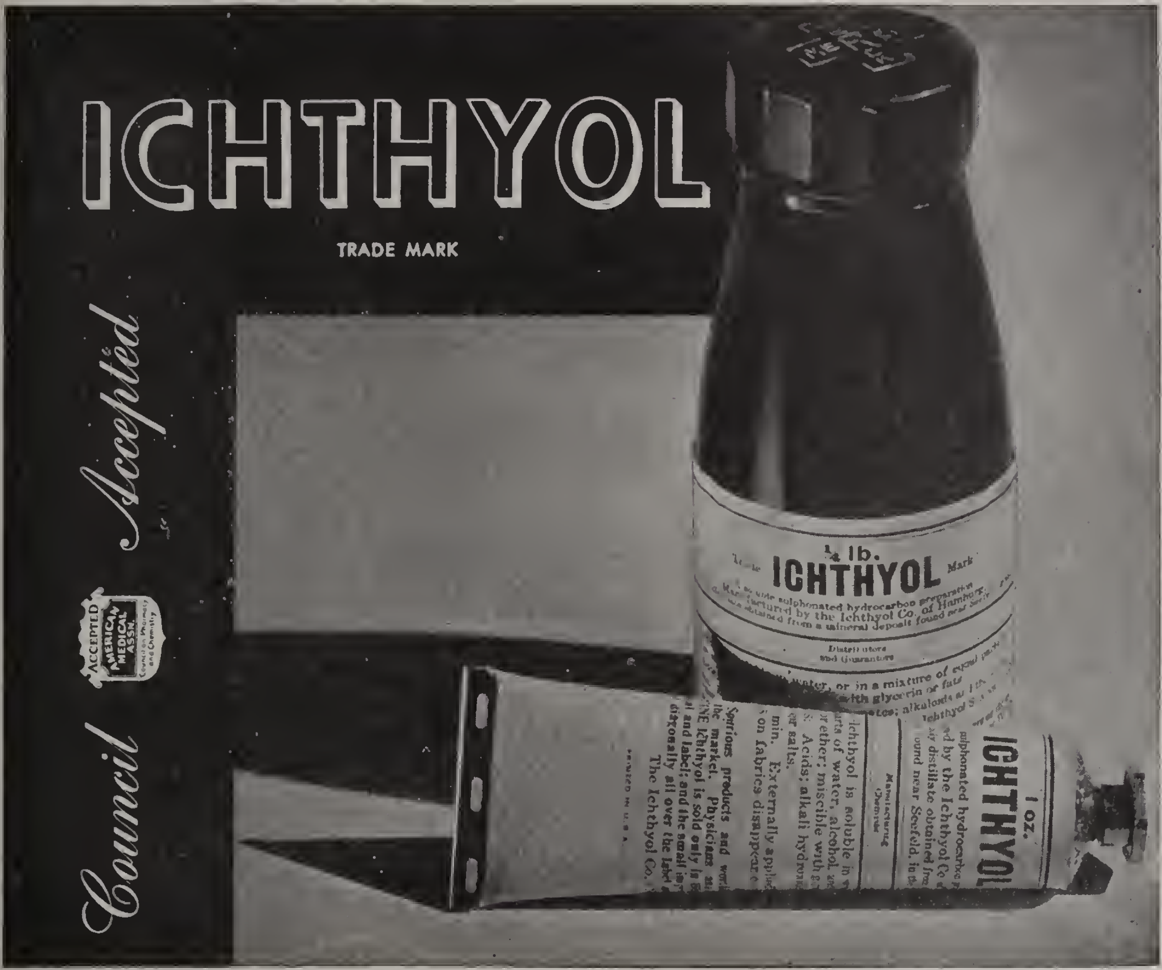

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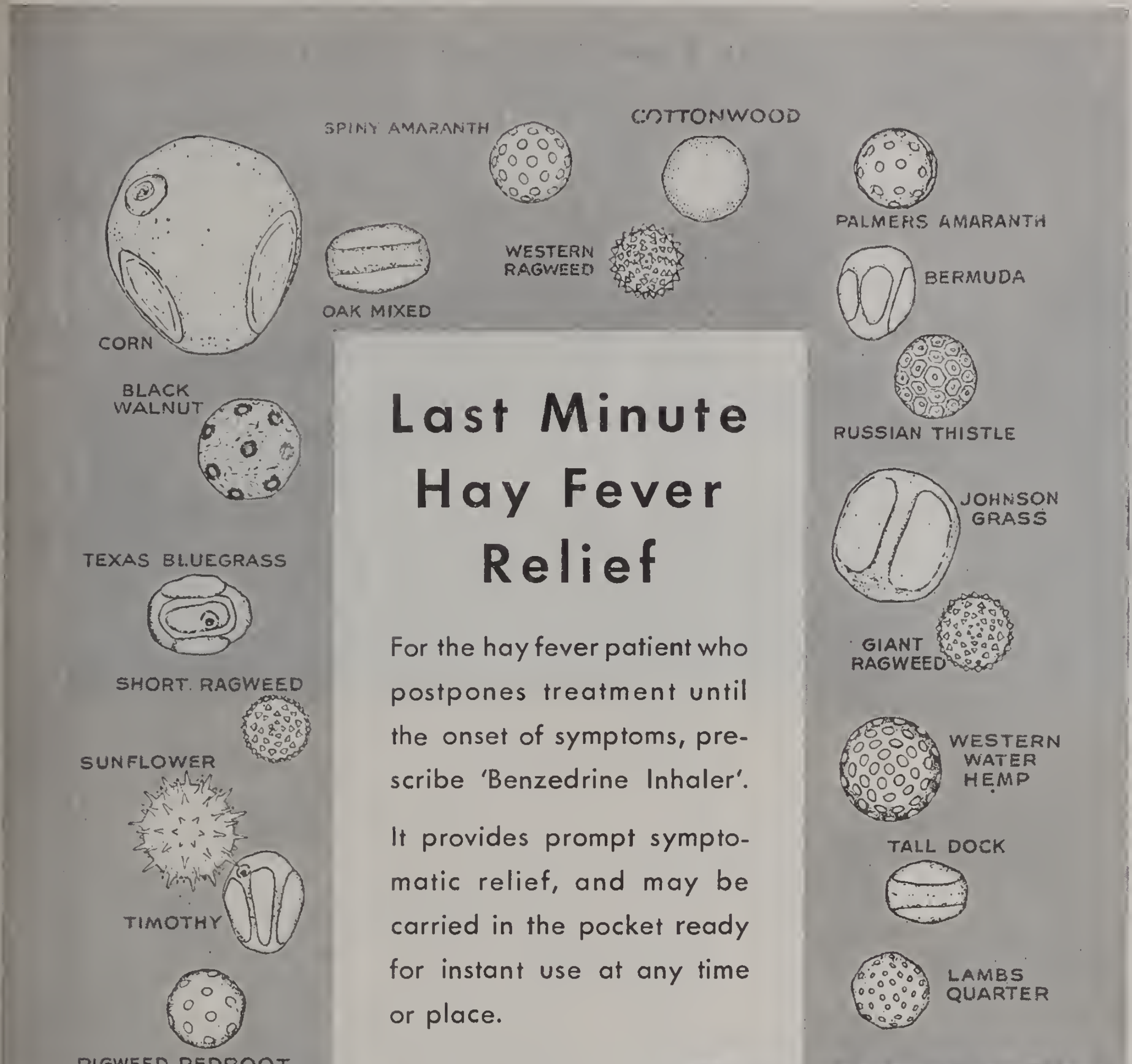

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Oxidation is the principal factor operating in the destruction of vitamin C. The rate of oxidation depends—among other things—upon temperature, degree of exposure to oxygen, and presence of substances which catalyze the oxidation reaction. Chief among the catalysts is the enzyme known as ascorbic acid oxidase. This enzyme is instrumental in the loss of physiologically active forms of cevitamic acid (ascorbic acid) by catalyzing the transformation of this latter substance into dehydrocevitamic acid (dehydroascorbic acid), which is more readily decomposed by a nonenzymic reaction into a compound having no antiscorbutic activity. This enzyme is apparently widely distributed in the vegetable kingdom, having been found in cabbage, carrots, lima beans, parsnips, peas, pumpkin, spinach, squash, string beans, sweet corn and swiss chard. Fortunately, the cevitamic acid oxidase is completely inactivated by heating to 100°C. for one minute (2).

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(1) 1936, Food Research, 1, 1

(2) 1936, J. Biol. Chem., 116, 717

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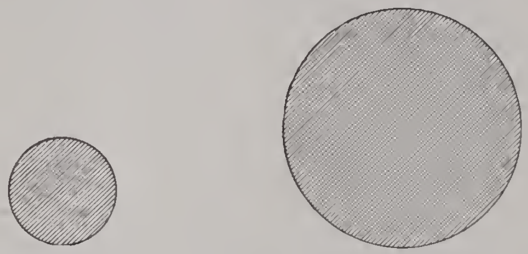

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Waukesha, Wis.

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CALENDAR OF COUNTY SOCIETY MEETINGS

COUNTY	SECRETARY	RESIDENCE	DATE
Adair	N. A. Mercer	Columbia	August 4
Allen	A. O. Miller	Petroleum	August 25
Anderson	J. B. Lyen	Lawrenceburg	August 2
Ballard	F. H. Russell	Wickliffe	
Barren	Paul S. York	Glasgow	August 18
Bath	H. S. Gilmore	Owingsville	August 9
Bell	R. F. Porter	Middlesboro	August 13
Boone	R. E. Ryle	Walton	August 18
Bourbon	W. B. Hopkins	Paris	August 19
Boyd	C. B. Daniels	Ashland	August 3
Boyle	P. C. Sanders	Danville	August 17
Bracken-Pendleton	W. A. McKenney	Brooksville	August 2
Breathitt	Frank K. Sewell	Jackson	August 17
Breckenridge	J. E. Kincheloe	Hardinsburg	
Bullitt	S. H. Ridgeway	Shepherdsville	August
Butler	G. E. Embry	Morgantown	August 4
Caldwell	W. L. Cash	Princeton	August 3
Calloway	Hugh L. Houston	Murray	August 5
Campbell-Kenton	C. A. Morris	Covington	August 1-15
Carlisle	J. P. Dunn	Arlington	August 6
Carroll	J. M. Ryan	Carrollton	
Carter	W. S. Hawn	Grayson	August 10
Casey	William J. Sweeney	Liberty	August 26
Christian	M. A. Gilmore	Hopkinsville	August 20
Clark	R. E. Strode	Winchester	August 16
Clay	J. L. Anderson	Manchester	August 10
Clinton	S. F. Stephenson	Albany	August 21
Crittenden	C. G. Moreland	Marion	August 9
Cumberland	W. F. Owsley	Burkesville	August 4
Daviess	W. H. Parker	Owensboro	August 11-25
Elliott	R. Eugene Wehr	Sandy Hook	August
Estill	R. R. Snowden	Ravenna	August 11
Fayette	John Harvey	Lexington	August 10
Fleming		Flemingsburg	August 11
Floyd	J. G. Archer	Prestonsburg	August 25
Franklin	Grace R. Snyder	Frankfort	August 5
Fulton	M. W. Haws	Fulton	August 11
Gallatin	J. M. Stallard	Sparta	August 19
Garrard	J. E. Edwards	Lancaster	August 19
Grant	C. A. Eckler	Dry Ridge	August 18
Graves	H. H. Hunt	Mayfield	August 3
Grayson			
Green	S. J. Simmons	Greensburg	August 2
Greenup	D. C. Parmenter	Greenup	August 13
Hancock	F. M. Griffin	Hawesville	August 2
Hardin	D. E. McClure	Elizabethtown	August 12
Harlan	C. M. Blanton	Harlan	August 21
Harrison	W. B. Moore	Cynthiana	August 2
Hart	S. F. Richardson	Munfordville	August 3
Henderson	Walter O'Nan	Henderson	August 9-23
Henry	Owen Carroll	New Castle	August 30
Hickman		Clinton	August 5
Hopkins	David L. Salmon	Madisonville	August 5
Jackson			August 7
Jefferson	Arthur T. Hurst	Louisville	August 2-16
Jessamine	J. A. Van Arsdall	Nicholasville	August 19
Johnson	P. B. Hall	Paintsville	August 14
Knott	M. F. Kelley	Hindman	August 28
Knox	T. B. Davis	Barbourville	August 23
Larue	D. W. Gaddie	Hodgenville	August
Laurel	Oscar D. Brock	London	August 11
Lawrence	W. C. Gose	Louisa	August 16
Lee	W. D. McCollum	Beattyville	August 14
Leslie	John H. Kooser, Act. Sec'y	Hyden	August
Letcher	R. Dow Collins	Whitesburg	August 31
Lewis			August 16
Lincoln	Lewis J. Jones	Hustonville	August 20
Livingston	William C. Davis	Smithland	August
Logan	Walter Bryne, Jr.	Russellville	August
Lyon	H. H. Woodson	Eddyville	August 3
McCracken	Leon Higdon	Paducah	August
McCreary	R. M. Smith	Stearns	August 25
McLean	L. Hubert Medley	Livermore	August 12
Madison	H. G. Wells	Richmond	August 19

COUNTY	SECRETARY	RESIDENCE	DATE
Marion	W. A. Risteen	Lebanon	August 17
Marshall	S. L. Henson	Benton	August 18
Mason	O. M. Goodloe	Maysville	August 11
Meade	A. A. Baxter	Brandenburg	August 26
Menifee	E. T. Riley	Frenchburg	August
Mercer	J. Tom Price	Harrodsburg	August 10
Metcalfe	E. S. Dunham	Edmonton	August 3
Monroe	George E. Bushong	Tompkinsville	August
Montgomery	D. H. Bush	Mount Sterling	August 10
Morgan			August
Muhlenberg	G. L. Simpson	Greenville	August 10
Nelson	R. H. Greenwell	BaBrdstown	August
Nicholas	T. P. Scott	Carlisle	August 16
Ohio	Oscar Allen	McHenry	August 4
Oldham	S. J. Smock	LaGrange	August 3
Owen	K. S. McBee	Owenton	August 5
Owsley	John R. Aker	Booneville	August 2
Pendleton	W. A. McKenney	Falmouth	August 11
Perry	D. D. Turner	Hazard	August 9
Pike	M. D. Flanary	Pikeville	August 2
Powell	I. W. Johnson	Stanton	August 2
Pulaski	M. C. Spradlin	Somerset	August 12
Robertson			
Rockcastle	Lee Chestnut	Mount Vernon	August 12
Rowan	A. W. Adkins	Morehead	August 9
Russell	J. B. Scholl	Jabez	August 9
Scott	Carl M. Gambill	Georgetown	August 5
Shelby	W. E. Morris	Shelbyville	August 19
Simpson	N. C. Witt	Franklin	August 10
Spencer			
Taylor	M. M. Hall	Campbellsville	August 5
Todd	B. E. Boone, Jr.	Elkton	August 4
Trigg	H. L. Wallace	Cadiz	August 25
Trimble	J. J. Gerkins	Bedford	August
Union	D. C. Denan	Morganfield	August 25
Warren	Hal Neel	Bowling Green	August 11
Washington	J. H. Hopper	Willisburg	August 18
Wayne			August
Webster	C. M. Smith	Dixon	August 27
Whitley	C. A. Moss	Williamsburg	August
Wolfe	G. M. Center	Campton	August 2
Woodford	Charles F. Voigt	Midway	August 5

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KENTUCKY MEDICAL JOURNAL

BEING THE JOURNAL OF THE KENTUCKY STATE MEDICAL ASSOCIATION

Published Under the Auspices of the Council

VOL. 35, NO. 8 BOWLING GREEN, KY. AUGUST, 1937

CHANGE IN PLACE AND DATE OF ANNUAL MEETING

The Annual Meeting will be held this fall at Richmond. The House of Delegates will convene on September 13th and the Scientific Sessions will be held on the 14, 15 and 16th. All of the meetings will be held in the splendid new auditorium of the Eastern State Teachers' College and they will take care of us in their dormitories, which are modern and comfortable. The Madison County Medical Society decided that the meeting place should be changed from Berea to Richmond on account of a building program at Berea which would interfere with the meeting.

Doctor Frank Stites has prepared the scientific program for this session and it is one of the most comprehensive that has ever been presented to the profession.

At the last meeting at Richmond almost one-third of the doctors of the State were registered and all who were there will recall the perfectly delightful time we had. The Auxiliary will meet in the Library Building at the same time.

Physicians desiring to make reservations should write to Doctor Hugh Mahaffey, Richmond, Kentucky, and he will attend to them.

It is suggested that every physician note on his calendar the dates from September 13-16 inclusive are reserved for the Annual Meeting of the Kentucky State Medical Association.

SAMUEL D. GROSS AS AN AUTHOR

Before receiving his medical degree (1828) Gross had resolved to occupy the early years of his professional career in writing. His great ambition was to become a teacher, and he realized that authorship would furnish the foundation for such a career. Another incentive to writing was the necessity for earning money, all his resources having been exhausted when he was graduated.

Gross opened an office in Philadelphia in 1828 and almost at once began the translation from the French of Bayle and Hollard's Manual of General Anatomy. Within two months the translation was completed. The book was immediately published by John Grigg of Philadelphia and Gross received two hundred dollars for his work. The translation reads well and the text is interspersed by an occasional note initialed "S. D. G."

While his first translation was being printed Gross had begun another from the French, namely, Jules Hatin's Manual of Obstetrics. This translation was also published by Grigg in 1828 and Gross received seventy-five dollars. The following year two books were translated, one from the German: Hildenbrand On Typus Fever, and the other from the French: Tavernier's Operative Surgery. For the first one of these Gross received one hundred seventy-five dollars and four hundred dollars for the second.

In 1830 Gross completed his first original book which was actually a compilation entitled The Anatomy, Physiology, and Diseases of the Bones and Joints. This book was received kindly and although 2000 copies were sold a second edition was never issued.

At this period Gross fell in love, and a few months afterward, married. The struggle for existence in Philadelphia gradually became so acute that in the spring of 1831 Gross returned to his home town of Easton, Pennsylvania, where he rapidly acquired a satisfactory practice. However, nothing was published though he continued his anatomical studies and started a book on descriptive anatomy. In the summer of 1833, through the efforts of Dr. John Eberle, Gross was offered the position of Demonstrator of Anatomy in the Medical College of Ohio, which he accepted and occupied in October.

The following year Gross was made a joint editor of the Western Medical Gazette, his associates being Drs. Eberle, Alban G. Smith, and Gamaliel Bailey. To this journal, during the two years of his association with it, he contributed book reviews, surgical case reports, and his first published essay on Intra-uterine Respiration in its Relation to Infanticide.

In 1835, following his retirement from the Medical College of Ohio, Gross accepted the chair of Pathological Anatomy in Daniel Drake's newly founded Medical Department of the Cincinnati College. Gross was an ardent admirer of Drake and thus writes of him: "To talent and genius he added vast industry, untiring zeal, and boundless ambition, qualities rarely combined in the same individual, and yet so necessary to attain to distinction and usefulness. For earnestness of purpose I have never seen him excelled.'' This estimate of Drake actually fits Gross equally well because for industry, zeal, ambition, and earnestness no one could excel him.

From 1835 to 1839 Gross pursued the study of pathological anatomy so assiduously that he was enabled to write his first authoritative book and one which gave him an international reputation. This book was in two illustrated volumes entitled Elements of Pathological Anatomy, published at Boston by Marsh, Carpen, Lyon, and Webb and James B. Dow in 1839 and dedicated to Daniel Drake. There is but one earlier American work on pathology which is by Wm. E. Horner and published at Philadelphia in 1829. The book of Gross shows unmistakable originality, contains a preliminary description of the healthy organ followed by a thorough pathological discussion and references to diagnosis. In 1843 James B. Dow of Boston reissued the work with a new title page. A second edition, in one volume, was published at Philadelphia by Barrington and Haswell and contained fifty colored plates in addition to two hundred fifty wood engravings. The third and last edition of the Elements of Pathological Anatomy appeared in 1857. Contemporary reviews show that the book was uniformly well received. The following quotation is from a review in the New York Journal of Medicine: ''We regard it as one of the most valuable works ever issued from the American press, and it does great honor to the author, and the country of his birth.'' Virchow once stated that he had obtained much useful information from Gross' pathological studies.

Passing successfully from a student and teacher of anatomy to a professor of pathology Gross was thus preparing himself to enter a broader field in surgery. His opportunity came when, in 1840, he accepted the Chair of Professor of Surgery in the Louisville Medical Institute, a position he occupied with exception of one term (1850-51) until 1856 when he went to Philadelphia to occupy a similar position in his alma mater, the Jefferson Medical College. While in Louisville, Gross was more active than ever in studying, experimenting, and writing. He revised and edited Liston's Elements of Surgery in 1842. Embodied in this book is a note which constitutes Gross' first published reference to his experimental investigation of wounds of the intestines. Two years were occupied in the epochal experiments on intestinal wounds and approximately seventy dogs were used. The detailed papers dealing with these experiments first appeared in the January, February, and March 1843 issues of The Western Journal of Medicine and Surgery, and later in book form entitled: An Experimental and Critical Inquiry into the Nature and Treatment of Wounds of the Intestines, published by Prentice & Weissinger, Louisville, 1843. These investigations were so far in advance of the times that they did not attract the attention they deserved.

An occasional essay or book review appeared in the Western Journal of Medicine and Surgery from 1843 to 1851. In this latter year, Blanchard & Lea published Gross' A Practical Treatise on the Diseases, Injuries and Malformations of the Urinary Bladder, the Prostate Gland, and the Urethra, a book of 726 pages. A second edition of this treatise was called for in 1855, and a third revised by his son, Samuel W. Gross, appeared in 1876. Two other important books were written while Gross was in Louisville, namely, On the Results of Surgical Operations in Malignant Diseases, Philadelphia, T. K. and P. G. Collins, 1855, 161 pages; and A Practical Treatise on Foreign Bodies in the Air Passages, Philadelphia, Blanchard & Lea, 1854, 468 pages.

Several years before leaving Louisville Gross began the preparation of the work upon which his renown as author and surgeon more firmly rests. Based on thirty years of study, experimentation, observation, and practical experience, the crowning achievement of Gross' authorship deserved the popularity it received: A System of Surgery; Pathological, Diagnostic, Therapeutique, and Operative, two volumes, Philadelphia, Blanchard & Lea, 1859. A second edition was issued in 1862, a third in 1864, a fourth in 1866, a fifth in 1872, and a sixth in 1882. There were literally hundreds of laudatory reviews of this book and embodied criticisms were entirely of a minor nature. The book, was, at the time, undoubtedly the best work on surgery in English, and this fact explains the popularity it enjoyed.

In 1856, Gross in collaboration with Dr. T. G. Richardson, had founded the Louisville Medical Review but only six issues appeared, both men having removed to Philadelphia. Together they established the North American Medico-Chirurgical Review which ceased publication shortly after the beginning of the Civil War. Gross states in his autobiography that he detested editorial work and was happy when relieved of such duties.

With the outbreak of the Civil War, Gross wrote A Manual of Military Surgery of which a second edition was required in 1862. This work was translated into Japanese.

Of the other publications of Gross two stand out and are much sought for among book collectors, namely, Lives of Eminent American Physicians and Surgeons of the Nineteenth Century, published in 1861, and his Autobiography (edited by his sons) in 1887. Especially is the autobiography interesting because it contains so many references to events, to places, and to men and women whom he knew, both medical and otherwise. The autobiography is intimate and almost gossipy at times, which despite the inevitable ego shown by such works, makes it extremely interesting.

Gross was the orator at the unveiling of the statue of Ephraim McDowell at Danville, Ky. in 1879, and this address was published by John P. Morton, Louisville, in the same year. Other interesting biographies written by Gross include those of Daniel Drake, Charles Wilkins Short, Jedediah Cobb, Isaac Hays, Ambrose Pare, and John Hunter.

Gross wrote in his autobiography: "One of the most painful circumstances associated with authorship is the uncertainty connected with one's works, or, in other words, with the fate that may await them, the duration of their existence, and the estimation in which they will be held by posterity, should they be so fortunate as to reach it." Over a century has elapsed since his first book was published and his books are widely collected now by those interested in medical Americana. If the first hundred years are the hardest for authors, it may be said of Gross that his works have not only survived but appear destined to be an enduring monument to American medicine.

Emmet F. Horine.

KOLMER & BOERNER ON BACTERIOLOGY

Every practicing physician should have some reliable text book on laboratory technique, not so much because he will actually do this work, but because he should know procedures and have to evaluate results. The laboratory procedure is mechanical and the technique is usually standardized by various authorities. The technician is not supposed to make any diagnosis but only to report findings under the microscope or the test tube to the physician whose job it is to correlate the results. There can be no better aid or guide in this respect than the new, revised edition Kolmer & Boerner's "Approved Laboratory Technique," published by D. Appleton Century Company, New York. It is a splendid reference book, written so that the average physician can understand it, and is a valuable addition to any medical library.

OFFICIAL COMMUNICATION ABOUT FEDERAL TAXES

In the column on Official Announcements we are reproducing a very important communication from the United States Commissioner of Internal Revenue, which should be read by physicians employing one or more persons and by private sanatoriums and private laboratories. If you are in doubt about any paragraph a letter addressed to Hon. Seldon R. Glenn, Custom House, Louisville, will receive a prompt and courteous reply.

AMERICAN BOARD OF SURGERY ORGANIZED

In answer to the widespread demand for an agency which will attempt to certify competent surgeons the American Board of Surgery has recently been organized. This Board is a member of the Advisory Board of Medical Specialties which includes all of the boards of certification for the different medical specialties which have been already organized. Since boards were in existence for the certification of practitioners of some of the surgical specialties such as ophthalmology, otolaryngology, obstetrics and gynecology, genito-urinary surgery and orthopedic surgery it is expected that the American Board of Surgery will be responsible for the certification of general surgeons as well as those practicing in the remaining specialized subdivisions of surgery.

Acting upon the invitation of the American Surgical Association the following surgical societies cooperated in the creation of the American Board of Surgery; the American Surgical Association, the Surgical Section of the American Medical Association, the American College of Surgeons, the Southern Surgical Association, the Western Surgical Association, the Pacific Coast Surgical Association and the New England Surgical Society. The first three of these bodies which are national in scope have three representatives on the Board. All of the other societies have one representative each. The representatives of the cooperating societies are nominated by the society which they represent and upon approval of the Board shall become members of it. The term of membership on the Board will be six years.

All applications for the Founders Group must be received within two years of the Board's organization, January 9, 1937. No candidates for the Founders Group will be considered after that date.

OFFICIAL ANNOUNCEMENTS

OFFICIAL COMMUNICATION ABOUT FEDERAL TAXES

Operators of private laboratories, private sanitariums, and physicians employing one or more were advised today by Commissioner of Internal Revenue Guy T. Helvering to make immediate tax returns as required under the provisions of Titles VIII and IX of the Social Security Act to avoid further payment of drastic penalties which are now accruing.

Commissioner Helvering pointed out that every person employed in such work came under the provisions of Title VIII, which imposes an income tax on the wages of every taxable individual and an excise tax on the payroll of every employer of one or more. This tax is payable monthly at the office of the Collector of Internal Revenue. The present rate for employer and employee alike is one per cent of the taxable wages paid and received.

Under Title IX of the Act, employers of eight or more persons must pay an excise tax on the annual payroll. This tax went into effect on January 1, 1936, and tax payments were due from the employers, and the employers alone, at the office of the Collector of Internal Revenue on the first of this year. This tax is payable annually, although the employer may elect to pay it in regular quarterly installments.

The employer is held responsible for the collection of his employee's tax under Title VIII, the Commissioner explained, and is required to collect it when the wages are paid the employee, whether it be weekly or semimonthly. Once the employer makes the one per cent deduction from the employee's pay, he becomes the custodian of Federal funds and must account for them to the Bureau of Internal Revenue.

This is done, Mr. Helvering said, when the employer makes out Treasury form SS-1, which, accompanied by the employee-employer tax, is filed during the month directly following the month in which the taxes were collected. All tax payments must be made at the office of the Collector of Internal Revenue in the district in which the employer's place of business is located.

Penalties for delinquencies are levied against the employer, not the employee, the Commissioner pointed out, and range from 5 per cent to 25 per cent of the tax due, depending on the period of delinquency. Criminal action may be taken against those who willfully refuse to pay their taxes.

The employers of one or more are also required to file Treasury forms SS-2 and SS-2a. Both are informational forms and must be filed at Collectors' offices not later than next July 31, covering the first six months of the year. After that they are to be filed at regular quarterly intervals. Form SS-2 will show all the taxable wages paid to all employees and SS-2a the taxable wages paid each employee.

Participation in a state unemployment compensation fund, approved by the Social Security Board, does not exempt employers from the excise tax under Title IX, Commissioner Helvering said. Nor does the fact that there is no state unemployment compensation fund relieve the employer of his Federal tax payments. In those states where an unemployment compensation fund has been approved, deductions up to 90 per cent of the Federal tax are allowed the employer who has already paid his state tax. These deductions are not allowed unless the state tax has been paid.

This tax is due in full from all employers in states having no approved fund. The rate for 1936 was one per cent of the total annual payroll containing eight or more employees, and for 1937 it is two per cent. The rate increases to three per cent in 1938 when it reaches its maximum. The annual returns are made on Treasury form 940.

An employer who employs eight or more persons on each of twenty calendar days during a calendar year, each day being a different calendar week, is liable to the tax. The same persons do not have to be employed during that period, nor do the hours of employment have to be the same.

Actual money, when paid as wages, is not the sole basis on which the tax is levied. Goods, clothing, lodging, if a part of compensation for services, are wages and a fair and reasonable value must be arrived at and become subject to the tax.

Commissions on sales, bonuses and premiums on insurance are wages and taxable.

Officers of corporations whether or not receiving compensation are considered employees for the purpose of taxation.

Wages paid during sick leave or vacation, or at dismissal are taxable.

Traveling expenses required by salesmen are not wages if the salesmen account for, by receipts or otherwise, their reasonable expenditures. That part for which no accounting is made is construed as a wage and is taxable.

Exercise great care in filling out Treasury forms SS-1 and 940. Directions are easy to follow and correct returns mean no unnecessary delay.

RELIGION AND MEDICINE*

W. J. Shelton, M. D.,

Mayfield.

I shall attempt to give you this evening merely my own conception of the Christian religion and medicine, being the two greatest moral and religious forces in the world. It is not a new interpretation of religion and medicine, for that is hardly possible for any man to do. Anything said on this subject is, of necessity, old. All that I can hope for is to say old things in a different way.

The human mind is the only medium known through which God works. That is the way in which all good has been accomplished, whether in religion or in the field of science. Our conception of any calling is worthless unless we put it into action, so religion and medicine teach me to offer assistance to all those who need assistance, spiritual or physical, to those who stumble and falter, to those who suffer and to lighten the burden of all as much as I can, to labor that pain and sickness may cease.

After 6,000 years of constantly changing history the universal desire for religion remains steadfast, and today religion and medicine are the sentinels on the frontiers of civilization. Of all the religions of all time the teachings of Christ stand preeminent, therefore, I shall not mention any other religion.

For more than a generation before the birth of Christ the world was greatly disturbed and was anxiously looking for Him. There was in those days a singular and inspired hope that in one way or another found vision and expression in nearly every section of the world. This was the conception of the coming of a Savior of mankind who would inaugurate a new rule and a new and better state of society upon earth.

That was also an unparalleled age of wealth and splendor. But it was morally and spiritually bankrupt. The old national faiths had crumbled under the shocks of war and the social change of that time. Skepticism on the one hand and debasing superstition on the other added to the great material wealth, destroyed all ancient religions and their restraints. Gross immorality abounded and extreme cruelty was commonplace. In spite of their wealth the great masses of people were miserable and unhappy. Half of the population, according to Gibbon, were slaves, and a great proportion of these slaves were of the civilized races, Grecians, Syrians, Jews, Egyptians of as high a type of intelligence and culture as their masters. The dominance of slavery made life hard and difficult. Unemployment then was a great and pressing problem as it is now. The dole system was in use. While those of the privileged classes, which were few in number, reveled in luxury the great majority of the people were sunk in bondage and despair.

Therefore, when the angel announced that, "There is born this day in the City of David a Savior," it was good news, not only for Judea but "for all people." There was not and has never been any class distinction. The angel's announcement to the shepherds, on that night, was the most important event in human history. His coming was the greatest news ever borne to mankind, for in Him was to be found the answer to the universal cry for a deliverer, and the final fulfillment of the world's expectation. What mankind needed then most of all is what it needs now most of all, a secure spiritual foundation. This was entirely lacking in the people of that time. Christ provided it in a foundation so firm that it still stands after the atheists and critics for nineteen centuries have bitterly and fiercely attacked it.

The religion which grew out of His personality and His teachings gradually displaced all others in the Roman world, because it satisfied as no other had done the inquiries of reason, the longings of the heart and man's intuitions of eternity. It operated constantly and steadily to relieve the hardships of life, to break the shackles of bondage and to lessen inhumanity. It improved the social and political life of mankind. It opened the doors of opportunity to all classes, particularly to the submerged. In a real sense He was the Savior and the Deliverer of mankind.

And He is still the Savior and Deliverer. His philosophy is the hope of this generation as it has been the hope of all others and will be the hope of those that are to come. The good news of that night is the good news of today. The conditions of life now are not to be compared with the conditions when He was born, yet sickness and suffering, wrong and injustice still infest the world, and the need for His teachings, in the material as well as the spiritual world, has never ceased. His influence in the alleviation of both social and spiritual ills continues. He is the leader of human life in every avenue and every field of its endeavor. He is not confined within the walls of any church. His domain is life, in the broadest sense of the word. "I am here that they might have life, and that they might have it more abundantly," so His saving touch is felt not only in religion but in all the relationships of men. Christian civilization is defective in many particulars, it has many faults. It permits and commits many wrongs, but it is the one civilization the world has known that gives supreme value to human life and works constantly for its improvement.

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*Delivered before the League of Christian Physicians of the Kentucky State Medical Association at Paducah October 4, 1936.

The Christian religion is not just an intellectual philosophy which we talk about, it is the way of life which you and I actually live as a personal experience. In the first century of the Christian era a few fishermen and peasants laid the foundation stones of the Christian religion under the direction of Christ Himself. It has gone forward with great force and power. It has transformed the life of the whole world and given a new meaning and new understanding of life. The gospel will not preach itself, no good cause in the world will take care of itself. It must be done by those who have faith in it and understand it. Today Christ wants to train you and me to be His disciples and witnesses. He wants us to have faith enough in Him to really practice the religion He gave us.

The facts are that true, honest, practical religion holds a secure place in the hearts of strong men and women. No matter what future revelations or discoveries may prove or seek to disprove as to the Christian religion, one great essential can never be altered; that is, the necessity of a firm faith, an absolute belief in Christ, in His birth, His teachings, His death, His resurrection and His promises. No one should doubt these great and essential facts and the man who hesitates or refuses to believe them makes the greatest mistake of his life; without that faith, without that absolute conviction, he will be hindered and crippled in whatever he undertakes.

Another point is that those who have this faith can go to the Creator of all good and through supplication receive guidance in all affairs. Too many millions of people have experienced the truth of this in their lives; argument on this point is fruitless. A prayer for guidance sent from the heart of man to God is never lost. This enduring simple faith in Christ leads one to obedience. It will stand the severest test. The simpler this whole question of religion is made the better, the more attractive it is, the more effective it becomes.

So we should think of God as a father or friend, one to whom we can go at any time and talk as we do our earthly fathers and friends. There are those who teach that all religions are ways to God, but all except the Christian religion are ways to destruction.

We do not commonly associate Christ with great thinkers, great artists, great scientists or great theologians, although He was greater than all in their own respective activities. The truth is we recognize His superiority largely for the reason that He alone of all beings on the earth, in all of its history, has been able to break the bonds of death and present Himself to those who knew Him before death in the same body that they had seen devoid of life. The miraculous deeds of Jesus may defy science and His profound knowledge of human nature, may mystify the greatest philosophers, but it is the clear record of His resurrection from death that gives to men the conviction of His divine nature.

You cannot escape His strong and simple truths of body and soul which have made Him the best known, best loved personality that has ever lived on earth. As He wanders over the Judean hills and along the shores of Galilee, the humble, the sick and the lonely follow Him crying for health and peace, peace of body and soul and He heard their cry. In His life were exemplified the supremacy of love and the destruction of hate. His life, His death and resurrection was for each individual that is here this evening, and there is no reason why we should not all agree on the fundamental truths taught by this inspired man and son of God Under all Christian religions lie the same ideals, the same longings, the same hopes and same purposes. His supreme message was, "Peace on Earth, Good Will Toward Men." And as we listen we hear Him say, "Thou shall love the Lord, thy God, with all thy soul, with all thy heart, with all thy mind, with all thy strength, and thy neighbor as thyself." He was thinking of the needy, the helpless, and the submerged of humanity when He said, "It is not the well, but the sick that need the physician."

As we follow Him we see Him in the presence of Mary Magdalene scorned by the world because she had fallen, with the publican, the tax collector, whom the people hated, with the blind, the crippled, the poor, with the lowly whom the mighty despised, with all those who had lost their way from disease of body or soul.

The welfare of the people calls for a stronger union among themselves against the common enemies, the enemies that Christ opposed. Disease, poverty, crime, fear and hatred. He called for a united effort, we have not answered His call.

A close relation exists between the church and medicine. Their efforts should be even more cooperative. Through the ages medicine has been seen in different lights. Sometimes as a religion, sometimes as an art and sometimes as a science. In whatever light it is viewed it has loyally and devotedly aided in the progress and the betterment of the world. The object and duty of medicine is to see after the welfare of the physical man. The object and duty of religion is primarily to see after the welfare of the soul. Christ taught and did both.

Faith in God means conforming to the order he has established. This more abundant life spoken of is obtained through the use of all the forces God included in his established order for the betterment of man, both body and soul. Among those forces religion and medicine stand foremost.

The doctor who does not believe in Christ does not have one of the first and most essential qualifications of a physician. He should keep before him the life and teaching of Jesus. He should strive to bring health and happiness to all. His first and last thought is to wage a ceaseless war on suffering and disease.

Christ laid down the guiding principles of life which are love and service. He never promised to do anything for man that he can do for himself. He placed at his command all the necessary resources with which to improve his condition, soul and body, and He expects for man to study and apply those resources. He left the establishment of His church with His Apostles and the spreading of the gospel to His Disciples, all in accordance with His plans, with sufficient knowledge and sufficient means for carrying on His work. The result is his philosophy and teaching have come down through all the ages with increasing power, solely through the efforts of those who believed and trusted in Him. That was and is His plan of sending His message and blessings to all the nations of the earth. So my friends, the relief of human suffering, physical and mental, is left in the hands of physicians just as the dissemination of His religion was left to His Disciples. God left sufficient wisdom and sufficient means in this world to relieve much of the suffering and pain of body and mind. It is the physician's business to acquire the knowledge and use the means that were placed here by a loving Providence for the relief of pain and the restoration of health. This is God's way and so far as we are privileged to know it is the only way of stopping death and relieving sickness. The individual who does not avail himself of medical practice has no other known recourse for the relief of suffering.

If the farmer fails to use the means to produce a crop then he need not expect any crop. If the man who is sick does not use the means to make him well then he need not expect to get well. The physician treats but God cures. This does not teach that we are not to use the means He has provided. It teaches that we are to use those means. There are more passages of scripture which teach that God will feed us than teach that He will heal us, shall we then cease to labor for food and expect God to feed us? The individual who makes the best use of the means the Creator has provided for him shows far more faith than the one who waits for his needs to be supplied without the use of means, for he who does not use the means will wait in vain, whether he is a farmer, a minister, a doctor or a sick man. How can a man get the benefit of a remedy unless he take it, whether spiritual or physical? The minerals in the earth, the stone in the mountains, the great forests were all placed here by a wise Providence for man's use and comfort. From these substances, our homes, our churches, our large cities are built, our lines of commerce established, our mode of transportation perfected. But man had to study and apply these elements before he could enjoy them. That was God's way of caring for us. The same is true in medicine. We must understand the body and the application of the means provided. That is His way and it's our way of restoring health to a sick body. One of the keenest terrors of life is that of pain, yet nobody escapes pain in the course of a lifetime. It is a great satisfaction for us to know that when the time comes for us to suffer pain nature brings relief when science applies the remedy. The practice of medicine should be a sacred and individual matter with both doctor and patient.

In his code of ethics for the practice of medicine Hippocrates said, "A physician should be an upright man, instructed in the art of healing." Consequently he must keep himself pure in character and conform to a high standard of morals and must be diligent and conscientious in his studies. "He should also be modest, sober, patient, prompt to do his whole duty without anxiety; pious without going so far as superstition, conducting himself with propriety in his profession and in all the actions of his life." The medical profession of today endorses this code. The objective towards which the profession is attempting to lead the public is an idealistic one, a state in which all people are healthier and stronger, where better social and spiritual surroundings exist. This was the philosophy of Hippocrates. This idealism has for centuries been exemplified by physicians even to the extent of martyrdom and ridicule.

Fearlessly, unselfishly with a high sense of justice medicine has and does serve humanity. Underneath its forward and upward march lies the ideals Christ taught the world, the relief of mental and physical suffering and the betterment of the state of man. A profession that can maintain and even elevate its standards and improve the state of the people's health in the trying years through which we have just passed, shows its unselfish devotion to the improvement of man's physical condition and the teachings of Christ. That is what medicine and surgery have been doing for the last century or more.

There has never been a way devised to take the tragedy and disappointment out of life. There are two things that you can't separate—suffering and sin. We all hate suffering, but we love sin. Our behavior throughout our lives shows this to be true. Cicero said, "Diseases of the soul are more dangerous and more numerous than those of the body." My friends, the Master of all physicians gave us a specific remedy for all diseases of the soul, there is no exception. That remedy is faith in Christ and God and obedience to His will. In medicine there are only a few specifics, but many preventive measures, serums, anti-toxins and vaccines that have a positive value. It is the physician's duty to increase and improve, as he has always done, the weapons with which he fights disease from the resources providence has placed at his command. The religion of Christ and medicine should labor together to lighten the burdens of those who suffer and to create a world of universal peace and safety, safe from the ravages of sin, and safe from the ravages of disease. These are ideals worth living and striving for.

Dr. Osler in speaking of the accomplishments of medicine said, "For countless generations the prophets and kings of humanity have desired to see the things that men have seen, and to hear the things that men have heard in the course of the wonderful nineteenth century." Pasteur said, "It is within the power of man to rid himself of every parasitic disease." These ideals can be attained only through and by the physician, and by him using all the means placed at his command to fight diseases. This is the Creator's way of relieving human suffering.

When faith lies deep in your soul it lifts you to the greatest heights of your being. With it the future is bright, without it the future is dark. It brings out of the body and soul of man the necessary condition to make health and happiness. It brings out that creative power and enables him to do for himself as God commanded he should. If you want to know what will become of civilization when hope and faith are gone, read a book called "Red Snow." In this book the author sends a red snow from heaven, which sterilizes all the mothers of the world, and the ones who are living are to be the last. With no one to work for, no one to love, men and women become lost in selfishness and envy. They become a faithless and perverted people. All they have created is destroyed and with no thoughts of the future civilization crumbles. God's established order in caring for both the soul and body must be enforced and can only be enforced by those qualified to do so, namely: ministers and followers of Christ for the soul, and physicians for the body.

Christ lived to teach you and me how to live, His simple truths give you inspiration and light. In spite of this, His philosophy is considered by many as antiquated and finds scanty approval. Such tendency has always been and is now marked by a lowering of moral standards, and by a depreciation of spiritual values. Everywhere the emphasis is placed on material things. Faith in Christ and God is vanishing. No one sees this condition more than the physician and no one deplores it more than he does. Where spiritual purposes are lacking to such marked degree we may expect to see distrust permeating all activities of life. Humanity in doubt, mankind groping in darkness for direction and for leadership. We refuse to accept Him as the leader of life.

God's desire to help man has not decreased, but man's inclination to do all things without Him seems to be increasing. Such efforts bring certain failure. If we reach the highest attainment possible we must take for our Criterion the Master of men. We have not outgrown Him.

Cicero said, "For the short period of life is long enough for living well and honorably." To this end the medical profession dedicates its service and follows in the footsteps of the great Physician by administering to the poor and needy, to the worn and weary, and relieving pain of body and mind.

The Christian religion and medicine are the two controlling forces in life. These two forces have gone side by side in the advancement of government, the school, the home and the church. Good health along with a righteous life is the foundation of all possible success.

The life of every individual, where medicine and the church are known, is influenced through them and influenced to a greater extent by them than by any other forces. Our present way of living in the cities and rural districts as well, with all of our business and social relations, is made possible through medical care and the church. Civilization throughout the world exists as it is today because of medical knowledge, its application and the church. Remove from any city, or community, the support of medicine and the church and disintegration of social and business life will immediately follow.

At present the public attitude, in some sections, is one of great indifference to both callings. This feeling of the public is perhaps to some extent due to economic and social conditions. Throughout history the degree in which leaders hold their calling has been reflected in the public. When the Minister and the Doctor think of their calling indifferently, the public becomes indifferent. In whatever light we see our calling the people will see it as we do, hence the Minister and Doctor should believe in their work with a sincere and patriotic fervor.

When ministers and physicians have complete confidence in their work, and are devoted to it, there is a bond of sympathy established between them and the public which makes better ministers, better doctors and better people. All modern health work and organizations are products of medicine created to prevent and cure disease and educate the public, just as the church with its organization prevents and aids in curing diseases of the soul.

The physician making his rounds among the sick and poor, giving them relief from suffering and pain, is the only one qualified to administer to their bodies. He is the only one who can direct an individual to the enjoyment of health, that is his sole business. He has always given his services to the poor, but it has always been and should always be left solely to his judgment the way to give the fullest measure of the best service to all the people.

The ministry, medicine and all other callings have been caught in the same economic and social entanglements of recent years. The entire social structure seems to have been severely shaken by changes that have been made.

It is still agreed that the ideal medical service is individual service by a competent physician and one selected by the patient. Perhaps in religion individual service is equally effective. In medicine we can't deal with people collectively like we can a single individual, this would disturb the close relationship between patient and doctors, and would interfere with the quality of service given the patient. The profession gladly cooperates with the states, or any organization in caring for all unemployed; also in the management and control of all communicable diseases. This far the treatment of diseases collectively makes for better medicine and better service.

The obligation of medicine and surgery is to prevent sickness and care for the sick, not some of the sick but all of the sick, not some of the time but all of the time. The Christian religion is to prevent sin and administer to the soul, not some souls but all souls, not some of the time but all of the time. What the Christian religion does for the soul medicine attempts to do for the body. Viewed in this light the practice of medicine, faithfully carried out, is a subdivision of Christ's teachings. This belief was verified by the Great Physician when He healed the leper, cured the paralytic and restored sight to the blind. The physician would do well to call Him into consultation and ask for wisdom and guidance in doing his daily tasks.

Physicians in recent years have deluded themselves by carelessly trying to maintain medical customs, while social organizations have been shaping the opinion of the people; the same is true of the church. With all of its confusing problems of recent years it has permitted the critic and Atheist to scatter their propaganda of faithlessness more effectively. It is the privilege and duty of medicine to ethically impart its teaching to the people and shape public opinion in a way that is beneficial. It is far more essential that the church should assert its leadership in the affairs of men and change the current into its former channel. Neither the Minister or the Doctor can sit and wait for the world to beat a path to their door. They must do something to further their teachings and carry them to the people.

It is difficult to correctly present the problems of religion or the problems of medicine. There is always an intensive campaign going on against both callings. A campaign that is detrimental to both soul and body, and is being waged by those who are not interested in our present or future welfare. Anyone can see that there is a rising tide of distrust.

It is true that the entire social structure has been greatly upset, but the old rules and principles that have been tried and proved sound still hold good. The laws of God have not changed, nor have his demands changed but the demands of the people have changed. No people with an unrighteous soul can be great. No people ever rise higher than its morals and its religious principles.

Christ did not provide any economic formula, but He did give a formula for righteous living, and He intended it should be placed within the reach of all. So, we are greatly interested in preserving and making effective the ideals and standard of the great Physician, the Prince of Peace.

The most inspiring periods of our life are those short periods set apart for thoughts of Him who gave His life that you and I might be blessed on earth and in the great beyond. He is the clear guiding light of man's existence. I know the minister has many burdens to bear, but I am sure his soul brightens with gladness when he thinks of the long years of service he has rendered to those he loved, and the sacred advice he gave to guide them on the hard road of life. Faith, love and service are your weapons of warfare and they are the fundamentals of all human endeavor.

I am happy to say to you this evening that the medical profession has faith in God, faith in Christ and faith in man. We believe that the path to peace, personal peace, political and social peace runs over the old road to Calvary.

So, my friends, through love, faith and service the medical profession is forever cemented to the teachings of Christ, and side by side the Church and medicine will continue their successful march against sin and disease.

COARCTATION OF AORTA*

WOODFORD B. TROUTMAN, M. D.

Louisville.

The case I am about to report comes under the heading of Congential heart disease, one of the four major groups; the others being rheumatic, syphilitic and degenerative heart disease.

The term coarctation derives from the Latin (co-cum, together and arctare, to press or make tight) meaning a localized narrowing or constriction of the aorta. It is interesting to note that patients who have coarctation of the aorta are seen more frequently during adult life than any other form of major developmental abnormality. The condition is roughly divided into two types, infantile and adult; in the infantile type there is very advanced narrowing which may involve most of the aorta and these cases are not compatible with any length of life whereas the adult type indicates only a localized and not so advanced narrowing of the vessel. The most common site for constriction is at the last portion of the arch just beyond the origin of the left subclavian artery at the point where the ductus arteriosus attaches; this ductus often remains patent in cases of coarctation and frequently the foramen ovale also remains open.

With a constriction of the great artery to the lower extremities it becomes necessary for other vessels to assume a greater burden and form a collateral circulation to bridge the gap; the vessels which take part are the internal mammary, scapular, intercostal and deep epigastric arteries.

In Abbott's series of two hundred cases the average age at death was thirty-two years, the oldest living to ninety-two years of age.

Case Report: Mrs. J. L. M., housewife, age forty-five years, referred to my office on May 10th with the chief complaint of choking and shortness of breath.

Past History: Had the usual childhood diseases except for typhoid fever at ten years of age. Influenza and pneumonia in 1918. Rheumatism in hands ten years ago. Several years ago had a great many teeth extracted under a general anaesthetic with a rather stormy course following this procedure.

Marital History: Three pregnancies, one miscarriage at three months, two children twenty-four and twenty-one years of age living and well. Delivery was uneventful in each case.

Family History: Father living at seventy years, has heart trouble; mother living at sixty-six years and is well. One brother died a week after birth from spasms, one sister died at thirty-five years from tubercular meningitis. Three sisters and one brother living and well.

Present Illness: Two weeks before coming to my office she suffered an attack in the evening before supper, had washed clothes most of the day and hung them out on the line; just after finishing with her work she had a feeling of strangulation with cough and shortness of breath, also some nausea but did not vomit. The family physician was called and advised bed-rest, after a few days the symptoms gradually subsided. For the past month or so there was some palpitation of the heart and a strong pulsation in the neck when lying down, also slight oedema of the feet and ankles toward evening. For some time has had giddiness, nose-bleeds and frontal headaches at intervals. Hands and feet feel numb and tingle, these symptoms more pronounced in lower extremities. Has gained a few pounds in weight recently, bowels constipated, nocturia one to two times.

On direct questioning the patient tells me that as a child she could hardly keep up with other children in play, her father would pick her up and hold her above his head which she says caused her to hold her breath for a long time. The parents noticed this and would scold her and would ask why she could not breathe like other children. Cyanosis was never noticed by anyone and we are told she was not a blue baby.

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*Read before the Jefferson County Medical Society.

On examination we find a well developed and nourished white female, not appearing ill, respiratory movements quiet and regular. No cyanosis of lips or cheeks. An exaggerated pulsation is seen and palpated in the supra-sternal notch extending to the right, bruit is heard over this area on auscultation, systolic murmur all over the precordium loudest in the second and third interspaces to the left of the sternum; second pulmonic and aortic sounds are loud and snapping. No diastolic murmur heard. Systolic murmur plainly heard on the posterior thorax over the upper part of the left scapula. Rhythm is regular and the rate 76 per minute.

In the arms the blood pressure is from 160-170 systolic and 90-100 diastolic while in the lower extremities the systolic pressure is about 85 millimeters and no diastolic level obtainable. The femoral pulse is not palpable.

Collateral vessels are seen on the chest wall in the first and second interspaces to the right of the sternum, also posteriorly along the inner border of the left scapula.

Otherwise the examination is not important, no evidence of any congenital deformity in the fingers or toes or other portions of the body. Electrocardiogram shows some widening of the QRS complexes in all leads, otherwise not remarkable.

We will now show X-ray plates and exhibit the patient.

X-Ray Examination and findings as reported by Drs. Bell, Martin and McNeill, May 12, 1937.

Chest; Roentgen Kymogram: There are numerous deep notches on the inferior surface of most of the ribs on both sides of the chest. This bilateral notching of the ribs is absolutely pathognomic of coarctation of the aorta. Due to the constriction of the aorta the collateral circulation has developed through the intercostal arteries. The intercostal arteries have become dilated, lengthened and tortuous, and with a high blood pressure above the point of constriction in the aorta, the loops of the tortuous intercostal arteries pound against the under surfaces of the ribs, producing localized atrophy. These localized erosions are located in the posterior portion of the ribs. Both ventricles are moderately hypertrophied, the hypertrophy of the right ventricle raises the question of whether or not there is some patency of the ductus arteriosus. However, the characteristic shadow of the dilated ductus at the point of its entrance into the pulmonary artery is not present. The ascending aorta is dilated and probably also the innominate and subclavian arteries. The diameter of the ascending aorta is 5½ cm. as against a normal of 3.0 to 3.5. The aortic knob is not visible.

In the left anterior oblique view the constriction of the aorta is visible 1 or 2cm. distal to the usual point of attachment of the ductus arteriosus. Distal to the point of constriction the aorta is small. The Roentgen kymogram shows that it pulsates feebly. Above the point of constriction the pulsations are vigorous.

Impression: Coarctation of the aorta.

(Signed) Clyde McNeill.

Summary: We have reported a case of Coarctation of the aorta of adult type and believe it to be uncomplicated by any other congenital anomaly of the heart. With regard to sex the case is unusual since this lesion predominates in the male about three to one. In the not distant past diagnosis was only established at post-mortem. When we stop to consider that about one-tenth of one per cent of the entire population have this abnormality it becomes important for the physician to familiarize himself with this clinical entity.

The exitus in these cases is either by myocardial failure, cerebral hemorrhage, rupture of the aorta or bacterial endocarditis.

Unfortunately all we are able to do from the standpoint of therapy is to advise a limitation of activities and correct the habits in general to relieve the strain on the heart and circulation.

DISCUSSION

M. M. Weiss: This has been an interesting presentation of a rare clinical condition. One can be on the lookout for this disease and suspect its presence in the young individual who has an elevated blood pressure. For some time it has been my custom when I examine a young person with hypertension to feel for thrills over the vessels on the back and to look for signs of collateral circulation. It is a simple procedure and may help pick up an occasional case.

Aerophagia in Ptosis. — Gaehlinger believes that the theory of Jacquet most nearly explains the presence of air swallowing in ptosis. This theory involves the conception that most patients with ptosis are dyspeptic and that this gives rise to gastric malaise, which causes the deglutition of air. The facts that the symptom subsides with the patient in the lying position that it is temporarily cured by diet and, finally, that the wearing of a support can cause the disappearance of aerophagia in reducible ptosis lend support to this theory.

SYMPOSIUM ON THE TREATMENT OF ARTHRITIS

NEWER MEDICAL MEASURES*

Arthur Clayton McCarty, M. D., F.A.C.P.

Louisville.

Newer medical measures are adding significantly to our armamentarium in the battle against arthritis. But more telling in our drive against joint disease is the better understanding and application of the standard procedures which have been emphasized and re-emphasized in recent years. I shall endeavor to evaluate these measures, from a review of the literature and personal experiences.

Medical treatment of the acute arthritic conditions is largely a matter of using analgesics, while vigorously attacking the underlying causes. In this category one must include arthritis associated with Tuberculosis, Lues, Pneumonia, Sepsis, Trauma, Hemophilia, Undulant Fever, Typhoid Fever, Scarlet Fever, Meningitis, Haverhill Fever, Psoriasis, Chronic Ulcerative Colitis, et cetera. Physiotherapists and orthopedic surgeons are devising many new aids in approaching this group of conditions, and you likely will hear more about this from other speakers on the program tonight.

Two acute arthritic conditions will be discussed in a little more detail before turning to the chronic joint diseases. The first of these is rheumatic fever. Newer advances go all the way from the free use of blood transfusions, and vitamins C and D to the intravenous administration of olive oil and colloidal charcoal, and splenectomy. Blood and Vitamins are to be commended; the other measures mentioned should be "tabled" for the present. A storm still rages concerning salicylates. While no one considers them a "specific" any more, yet some good authorities call salicylates a "sheet anchor" in rheumatic fever treatment. Others say they are a heritage which we use in ignorance, even to the point of toxic doses. Accepted rather generally, however, are such drugs as amidopyrin, tolysin and other cincophens, alkalies, atropine and histamine in the medical treatment of Rheumatic Fever. Vaccines (streptococcic and typhoid), antitoxins, antigens and foreign proteins are finding increasing favor. More and more it is being appreciated that children must be built up to resist this dreaded cardiac disease with joint manifestations, and to this end Vitamin C has been given an important rating by the work of Rinehart.

Since most investigators associate Sydenham's Chorea with Rheumatic Fever, it may be well to mention the somewhat newer drug Nirvanol(Sodium salt of phenyl-ethyl-hydantoin) used in the therapy of this condition. So much has been said of its value and also of its danger that a fair appraisal would seem to be this: it should be used cautiously by those who understand it; others should be content with the administration of ketogenic diet, typhoid-paratyphoid vaccine and hyperpyrexia treatments in chorea.

The second acute arthritis to be considered is gonorrhea. Only last week Bauer and his associates showed in the Journal of the American Medical Association how conclusively one may diagnose this condition with the compliment fixation test. This paves the way for earlier and more intelligent treatment with Corbus Ferry gonococcus filtrate intradermally, gold salts intravenously, fever therapy, and the recent rather startling roentgen therapy described by Garland. And it is not to be forgotten that air injections relieve the pain of many gonorrheal joints as well as aid in the recovery of same.

Turning our attention to Chronic Arthritis, let us consider first Atrophic or Rheumatoid Arthritis. Better therapy here is based upon a better understanding of the whole situation,—namely, that it is the patient and not just his joints which must be treated. Individualization is the keynote, and an understanding is essential that one is dealing with a chronic disease requiring prolonged, constant care.

In keeping with these statements is the increased tendency of arthritis workers to turn their attention to the general systems of the arthritic. For example, Sternberg has shown Vitamin B complex deficiencies in arthritics; Rinehart a Vitamin C shortage; and Wyatt Vitamin D needs. Hartung and Steinbroker have demonstrated hypoacidity or achlorhydria in a considerable percentage of joint cases; while Rawls and his co-workers report 55 per cent of arthritis cases in the atrophic group show liver dysfunction. Others point out the shortcomings in nutritional states and anemia in joint sufferers. Surely these findings point the way to a newer, more intelligent therapeutic approach for the individual arthritic.

The removal of infected foci still has a permanent place in atrophic arthritis. A conservative attitude in this connection is the newest teaching, as is also the appreciation of an appropriate time for this removal. "Piece meal" cleaning up is best, at a time when the patient is in a fairly good general condition. Teeth, tonsils, sinuses, gall bladder, cervix, colon and prostate are the important centers.

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Rest and exercise are important medical measures, which will be left to the physiotherapist on this program.

Newer drugs of worth which have survived close scrutiny are Oxoate "B," Mono-Iodo-Cincophen, Tolysin, and Cal-Acetyl. Addition of an alkali with each dose often will make the tablet "rest better on the stomach" as well as improve the arthritis. Iron, arsenic and iodides are in no wise new drugs, but are not to be forgotten in selected cases.

Vaccines used intravenously and in doses precluding any reaction continue to find favor with most observers. Fast mounting reports on agglutination tests, blood and tissue cultures, and sedimentation rates in atrophic arthritics make the use of these vaccines more justifiable. Less tested but definitely encouraging in this field is the use of filtrates or antiviruses. Many prefer to employ a vaccine from an organism which has given a positive skin test on the arthritic in question.

Foreign proteins, as such, are well thought of by such eminent men in this work as Cecil, but generally are not so favorably received. Sulphur is more universally accepted and employed. Its bad effects are trivial and its benefits often striking. On the contrary gold salts are highly dangerous and far from brilliantly successful, even when no damage is done. With the encouraging things which are reported about the drugs mecholyl (acetyl beta methylcholine chloride) and histamine, I can readily agree, but since they are usually administered by cata or iontophoresis, I shall leave their discussion to Dr. Jones.

Diet is a medical measure in arthritis still widely cussed and discussed. Many advise no limitations, but the most careful students of the subject realize the benefit to be derived from carbohydrate limitations, with adequate proteins, calories and Vitamins (especially B 2, C and, D as already mentioned). Shaping the diet to the individual arthritic is a definitely newer trend. Protamine insulin with high caloric diet for the undernourished is also quite popular.

Since Hypertrophic or Osteo-arthritis is now accepted as a degenerative or senescent disease of the joints, treatment of this condition is more and more turning to the protective and restorative or reconstruction phases. It would be unfair to leave the impression that therapy in this group of cases is progressing by leaps and bounds. For example Hench and his associates, after reviewing for 1935 more than 600 articles and 17 textbooks on Rheumatism and Arthritis in the English language alone, devote but one and one half pages to the treatment of Hypertrophic Arthritis.

Cardinal principles seem to be rest and better body mechanics; paying especial attention to securing reduction in weight, as most of these cases are obese. Since improved circulation is an essential factor where cartilage degeneration is taking place, thyroid extract, histamine and choline have definite value. In fact, one worker has successfully employed a Pavaex machine to secure this improved blood supply in the extremities. Experience indicates intravenous sulphur therapy to be of more value in hypertrophic arthritis; vaccines less so, in most cases. And once again, the admonition to use massive (150-250,000) doses of Vitamin D is found in many newer articles on the subject. At least this is more sane and practical than the suggestion of the Russian School, for example, which has undertaken in a big way the treatment of arthritis by parathyroidectomies.

A few words concerning gout, before closing. Glucose orally, rectally, and intravenously is one of the latest advices with merit. Diet should be high in calories, low in fat; purine free for 3 to 4 weeks, purine low thereafter for months. Cincophen should be used intermittently, administering it in sufficient doses three to five days of each week. Fever therapy must be borne in mind, and tophi removed if producing trauma.

Conclusions:

1. Newer medical measures in the care of the arthritic are mentioned and evaluated.
2. Older standard measures are discussed and emphasized.
3. Attention is called to the fact that individualized care is necessary in securing satisfactory results.
4. A well rounded program of therapy is desirable—not a "routine treatment."
5. Cooperation between internist, physiotherapist, orthopedist, roentgenologist and the patient is all-essential.
6. The only new panaceas and specifics known in this condition are quite old; careful study and long hard work.

Goiter—From a clinical standpoint the manifestations of goiter are local or general or both. Though the prevailing opinion among the laymen is that a goiter is the appearance in the neck of something entirely new and abnormal or among the better informed that it is an enlargement of the thyroid glands, it is conceivable, and actually does occur.

PHYSIOTHERAPY IN ARTHRITIS*

David E. Jones, M. D.

Louisville.

To discuss physiotherapy in Arthritis, it is almost mandatory that some orthopedic aspects be included and while I shall try to adhere to physiotherapeutic measures, I am going to include some of the orthopedic principles which are necessary accompaniments and essentials in the successful management of arthritis.

We shall assume the acceptance of the premise that arthritis is a systemic disease with the joint condition being a symptom or a late accompaniment of the disease. However, the joint involvement consists of real pathology which takes the form of an inflammatory process, either acute or chronic. With this in mind we must realize that rest for the joints involved is absolutely essential to the alleviation of the process, and the more adequate the rest the more efficiently this process is overcome. This assumes, of course, that suitable medical measures are employed to bring the disease process under control.

However, complete immobilization in the presence of an inflammatory process contributes to the formation of more dense adhesions and to fibrosis which is so constant a sequel to inflammatory processes. For this reason, complete immobilization is unwise for a long period since it leads to ankylosis. With this in mind, it seems wise that we splint these joints so that complete immobilization can be maintained but these splints must be removed at carefully chosen intervals to allow for motion, which need not include the complete range of the joint but the extent of which should be determined by pain and muscle spasm.

At this point it seems wise to digress long enough to say that in treating the chronic joint it is necessary to determine to what extent the pain is due to inflammation and what part is due to stretching of adhesions and contracted ligaments and tendons. This is true since the process of treating the joint should consist, in part, of assisted motion and any attempt to carry an acute or subacute joint beyond the point of pain and muscle spasm aggravates and perpetuates the process to an alarming degree. While in the chronic joint assistance in motion should include only moderate assistance to the muscle group that is attempting to carry out the motion, so that only the mildest attempt is made to carry motion beyond the point of limitation. But let me emphasize the fact that this must not be carried to the point of real pain or resistance on the part of the patient, for two reasons: first, that the arthritic process may be perpetuated or lighted up and, second, that undue stretching of fibrosed ligaments and muscles, so that some tearing of fibres occurs, leads to further scar tissue formation and the contracture tends to increase rather than improve.

This may seem to lead to the thought that little can be done to overcome these contractures but, on the contrary, much can be done with less effort for the physiotherapist and more comfort for the patient. The patient should be encouraged to carry out his motions actively to the point of limitation and then maintain a strong contraction of the muscle group involved at this point in an attempt to increase the range of motion. In this respect, I think we can safely say that motion will not be carried too far at any time, since muscles cease to contract before that point is reached. At the same time that we are overcoming the contracture in this manner we are increasing the tone and strength of the muscle group which opposes the contracture and any improvement gained is thus maintained. This muscular change must keep pace with the reduction in the contracture and is particularly important in the atrophic form of arthritis where muscle atrophy is a characteristic of the disease and advances rapidly early in the disease process.

The measures of splinting and motion have been discussed first in honor of their importance and for this reason I have left until now the discussion of heat and massage which I consider of lesser significance.

Heat and massage are attributes to motion and should be so considered. Heat has only two functions: to improve circulation through vasodilatation and to relax muscle spasm. And at this point, let me repeat what I have said so frequently, that I cannot honestly advocate any particular form of heat in favor of another. The incandescent form of heat lamp has proved quite satisfactory in my hands but those who prefer diathermy and short wave will find them equally satisfactory providing they are familiar with this equipment. However, there are methods which demand considerable experience to obtain optimum results and avoid complications. To many, the hot wet pack seems quite satisfactory.

Massage is an adjunct to heat in improving circulation and obtaining relaxation of muscle spasm. In overcoming contractures, massage should be sedative or relaxing in the contracted muscle group and stimulating in the opposing muscle group. Of course, in the acute stage, massage should be avoided entirely unless we use the lightest form of stroking to produce sedation and relieve swelling and congestion. Great care should be used in the hypertrophic form, that massage in the presence of bony spurs does not prove irritating and produce further soft tissue congestion. Adequate support of the affected joint must always be maintained during massage to prevent motion in the joint that may prove irritating rather than soothing. This is particularly true in the early stages of hypertrophic arthritis, when relaxation of ligaments occurs and false motion exists, and in the atrophic form where there has been sufficient destruction of cartilage that there is abnormal mobility in the joint.

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In my estimation, the most important aspect of orthopedics and physiotherapy has been left till the last, namely, the discussion of body mechanics. We have come to feel that the correction of body mechanics in the arthritic patient is of equal importance with the other measures that should be carried out in this condition. I believe this should be a part of the treatment routine since I am convinced that body mechanics is universally poor in this condition.

Correction of body mechanics is important from both the physiologic angle, which cannot be discussed here, and from the orthopedic angle. Considering the effect of joint strain on the arthritic process it seems obvious such treatment is essential since it is my feeling that the joints which suffer most from strain are the ones affected first in the process.

When we realize the effect of kypo-lordosis on the joints of the lower extremity it immediately becomes obvious that correction of that condition will do much to relieve the strain on hips, knees, ankles and feet. Teaching the patient, through exercises, to use the chest in a high position with the low back flat so that the weight is balanced farther forward changes the entire mechanics of the lower extremities. Then if we add correction of pronation and teach him to use his feet in a parallel line we find the strain removed. At the same time muscle balance is essential since it is the muscular structures that protect the joints in their use.

In the upper extremities, we find the shoulder dependent for its position upon the position of the chest. If the chest is low we find the shoulder drooped downward and forward while with the chest in the high position the shoulder girdle assumes a normal position. Such a mal-position results in congestion and poor use of the entire upper extremity. Always associated with round shoulders is an increase in the forward curve in the neck and frequently there is some interference with circulation as well as nerve root irritation.

In regard to the cervical region, frequently neck pains in arthritis can be relieved completely through correcting the mechanics and in the same manner many of the shoulder and arm pains as well. Certainly the low back pains respond to these measures almost without fail.

With these things in mind, I think we can readily see the necessity of bed rest for the majority of arthritic patients during the initial stages of treatment. Disregarding the fact that bed rest is of utmost importance from the physiologic standpoint, it is also essential from the mechanical standpoint. During this period, joint strain is relieved and sufficient correction of mechanics can be obtained to give the patient an advantage which he did not formerly have when he is again up and about.

Considering the close alliance of orthopedic and physiotherapeutic measures as they have been discussed here I think it is obvious that a discussion of physiotherapy without that of the orthopedic principles would have been futile and it may readily be seen that in treatment they are interdependent and must be so managed. One without the other means failure.

SURGICAL PROCEDURES IN THE TREATMENT OF ARTHRITIS*

R. T. Hudson, M. D.

Louisville.

While no symposium on the treatment of arthritis would be complete without presenting the surgical aspects, the application of operative treatment is relatively limited. The removal of foci of infection, while extremely essential, may fail to effect a cure in many cases, unless secondary foci in the joints themselves are removed by surgical procedures.

Operative treatment is more applicable to the chronic, neglected cases presenting deformities and limitations of motions as the result usually of the pyogenic or rheumatoid types of infection.

Many fixed deformities that develop are preventable, if the patient has had the proper orthopedic care during the active stages of the disease, but neglect or lack of cooperation of the patient inevitably leads to a certain amount of pain and stiffness as a result of the damaged joint structures.

The deformities are usually of the flexion type of contractures because the flexors are the stronger muscles and this is the position of greatest comfort during the acute stage of the disease.

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Pemberton and Osgood, in their very excellent monograph, "the Medical Orthopedic Managment of Arthritis," name several conditions that must obtain to justify a surgical attack upon the diseased or deformed joints.

The most important of these are as follows:

1. Arrest or quiescence of the disease.
2. Correct appraisal of the patient as an operative risk.
3. Provision for carrying through the entire operative campaign.

   This includes
   - (a) Special hospital facilities and optimistic, experienced nursing care.
   - (b) Consideration of the patient's financial resources in relation to the after-treatment, especially physical therapy and prolonged "follow-up."
4. Thorough training in joint surgery, good judgment and meticulous technique on the part of the surgeon.

Before considering operative treatment one should have thoroughly in mind the object he is trying to achieve and be aware of the pathological condition existing in the particular joint.

Frequently, in long-standing cases, both upper and lower extremities are involved and the unfortunate individual is quite helpless. I think in such cases correction of the upper extremities should be attempted first to enable the patient to take care of himself and later to correct the legs so he may get about and regain his economic status.

I shall now enumerate and discuss the more common surgical procedures.

1. Stretching and Manipulation of Joints: Often contractures and deformities of mild degree may be corrected by continuous traction. This stretches the contracted tissues and alleviates pain. Other cases may require stretching under anesthesia, *brisment force.* This procedure has a narrow application and is dangerous in inexperienced hands. Any manipulation should be very gentle and only once through the normal ranges of motion for the particular joint. After manipulation the patient should be encouraged to use the joint but stop at the point of pain. Nothing is accomplished by passive, painful motion.

Rest, and not motion is always indicated in any acute process in a joint. Probably the most common application of forceful manipulation is in cases of post-traumatic or periarthritis of the shoulder, where there are fibrous adhesions. These cases must be followed by judicious and prolonged physiotherapy.

2. Aspirations and Incisions: These procedures have little place in rheumatoid or osteo-arthritis except for diagnostic purposes. One might mention here injections of air or oxygen into joints for diagnosis and used by some orthopedists in the treatment of gonorrheal arthritis. Also, arthroscopy of joints, such as the knee, by an instrument similar to a cystoscope.

3. Removal of Pathologic Tissue: A typical example of this procedure is synovectomy of the knee. Not infrequently, in chronic rheumatoid and sometimes in osteo-arthritis the synovia becomes greatly thickened, the villi enlarged and the joint constantly distended with fluid. These cases resist any form of palliative treatment and I feel that surgical removal of the diseased synovia is definitely indicated. Best results are obtained when the condition is nonarticular. The joint is opened by a para-patella incision and the synovia together with the semi-lunar cartilages completely dissected out. The joint is immobilized for two to three weeks and passive motion is begun. The relief of pain and the improvement in function is often quite remarkable.

Posterior capsulotomy, described by Wilson, is another valuable operation in some cases of so-called fixed flexion deformity of the knee, that I have used with very gratifying results.

Campbell emphasizes the importance of plastic procedures for the elongation of extra-articular contractures when function cannot be restored by conservative measures. He advises against tenotomies and fasciotomies and advocates well planned operations, in which the contractures can be elongated with conservatism of normal tissue and reduction of healing by scar tissue to a minimum.

4. Osteotomies: At times division of a bone near a joint that is ankylosed may correct the alignment of the limb and promote better weight bearing. An example of this is sub-trochanteric osteotomy of the femur in ankylosis of the hip-joint.

5. Arthrodesis or Fusing Operations: In rheumatoid arthritis nature often cheats the surgeon out of this operation. A joint in which there is only a few degrees of painful motion is much more comfortable and useful if complete arthrodesis is produced.

6. Arthroplasties and Reconstruction Procedures: These are operations designed to produce more motion in the joint but in my experience their application in arthritis is more limited than one might think. Often it is very difficult for one to decide whether to produce more motion or eliminate motion al-

together in an arthritic joint. Cases for arthroplasty must be very carefully selected and unless you have complete cooperation of the patient and one with a well sustained morale the results are apt to be disappointing.

The difficulty lies in the fact that the disease that produced the ankylosis is still present, and even though a perfect operation has been done and function partly restored for a while, the joint is very apt to re-ankylose or become painful.

The hip-joint is one in which such procedures are especially applicable in osteoarthritis. Operations to produce more motion in the hip-joint should be considered only in patients who have a fair amount of motion and the limitation is due to single spurs on the head of the femur or only small amounts of bony outgrowth. If there is extensive destruction of the articular cartilage and the bony masses involve both the acetabulum and femoral head, it is better to place the joint at rest and allow complete ankylosis to take place.

Cheilectomy or chiseling away bony irregularities as described above does have a place in the treatment of selected cases of arthritis deformans.

Recently, Smith-Petersen has described an operation which he calls acetabuloplasty for malum-coxae senilis-osteoarthritis and similar conditions of the hip-joint. He removes a portion of the anterior wall of the acetabulum permitting freer motion of the joint. From his reports this is a better procedure than reshaping the head of the femur.

7. Sympathectomy: This has been done to improve the circulation and increase the temperature, especially in infectious types of arthritis. I am unprepared to evaluate the results at the present time and will leave this to the neurologists.

SUMMARY

1. Surgery is an important adjunct in the treatment of arthritis and the objects are: to prevent deformity, correct deformity and restore function.

2. If results are to be obtained the cases must be very carefully selected and studied from physical, psychological and economic standpoints.

3. The work is certainly worth the effort if some unfortunates can be rescued from crippledom and restored to at least personal independence, if not to economic usefulness.

BIBLIOGRAPHY

Pemberton and Osgood. "The Medical and Orthopedic Management of Arthritis."

P. Wilson. Journal of Bone and Joint Surgery, January 1929.

W. C. Campbell. Radiology. Vol. 24—No. 4, Pages 398-410.

M. N. Smith-Petersen. Journal of Bone and Joint Surgery. Vol XVIII No. 4. October 1936.

DISCUSSION

Frank H. Mayfield: There is very little that I can add to the subject of arthritis per se unless perhaps I mention the fact that certain neurotrophic changes take place in the joints and bones secondary to disease of the nervous system. Charcot's joint is an example of this and osteoporosis is another. Treatment, of course, is primarily directed at alleviation of the disease of the nervous system.

The only operations which have been advocated by the neurosurgeons are the sympathectomy which was mentioned by Dr. Hudson and Dr. Miller for certain forms of infectious arthritis the purpose being to improve the circulation in the affected part and thereby speed recovery. Some reports indicate that this has been quite a helpful measure but our experiences, which are rather limited incidentally, have not been so encouraging. When it is used for disease of the lower extremities the operation consists of removal of the lumbar sympathetic chain and when the upper is involved, removal of the cervico-dorsal ganglia.

The other operation is chordotomy which is, of course, only a palliative procedure for relief of pain and is indicated only in the badly disabled patrons who suffer intractable pain and who offer no prospect of relief by other measures.

I would like to talk for a moment about low back pain, a subject which has absorbed a great deal of our time and interest in recent months. The symptoms of arthritis in the lower spine or sacroiliac joints consist of low backache with or without radiation of pain into the legs. The same symptoms may be due to faulty posture which results in added strain on the ligaments surrounding the articular facets of the lower lumbar vertebrae. When the pain does arise from this source it rightfully falls into the field of orthopedics. These various symptoms, however, frequently follow low intraspinal lesions such as a neoplasm, herniation of the nucleus pulposus and as recent experiences of ours have shown, it is due frequently to hypertrophy of the ligamenta flava. There is little or no difference in the symptoms presented by these various lesions except perhaps that those due to intraspinal disease may complain of loss of libido and possibly sphincteric disturbances in addition to the pain. On examination the patient with intraspinal disease will usually show mild sensory changes around the sacral segments, some tenderness to pressure over the lower lumbar vertebrae, and diminished or absent reflexes in the legs. The reflex changes are generally confined to the side most affected. If spinal puncture is done on this group of patients the protein content of the fluid is usually found to be high if an intraspinal lesion exists, and usually the lesion can be demonstrated by injecting lipiodol and studying the patient under the fluoroscope. The treatment, of course, is surgical and consists of laminectomy and removal of the mass.

Orville R. Miller: I find myself in such complete accord with what has been presented that there is very little for me to say. I feel that one of the most important things in the treatment of arthritis that can be used by everyone is physiotherapy. It seems to make little difference what kind of arthritis is being treated, whether it is in the type in which we have pus forming organisms in the joint or where there is an atrophic process going on secondary to an infection in some other portion of the body or whether the arthritis is due to a poison generated in the body as a result of poor metabolism, physiotherapy has usually proven beneficial. I am, personally, of the opinion that we should be very cautious of using surgery of any type on the joint itself in cases of arthritis except in very carefully selected cases. As Dr. Goldberg and Dr. Hudson have said, joints may be very easily harmed Atrophy takes place so rapidly in the bone and there are such firm adhesions formed that in merely a manipulation, if this is done very strenuously, the bone may be fractured near the joint surfaces and only harm result. When surgery is attempted to produce motion in an ankylosed joint, only those patients who have a complete ankylosis and in which there is no active infection, should be selected. All evidence of infection should have disappeared at least one year previously, or better, eighteen months or two years. Arthroplasty done on joints that have been infected by pus producing organisms and have become ankylosed, give better results than when done on other types of arthritis. Of course, there can be no objection to removal of spicules of bone or exostosis which form in the hypertrophic type of arthritis, if they limit motion. Relief of deformity by osteotomies or complete fixation of the joints in patients with atrophic arthritis, is preferable to attempting surgery for increase in the range of motion. Certainly, one would also attempt to remove the cause of the arthritis, if it can be found, by a search for a focus of infection and by correcting metabolic processes and arranging the proper kind of diet. I was impressed with results which were obtained in some cases in which a sympathectomy had been done. This appears to be indicated in properly selected cases.

Much has been said about the treatment of arthritis but these gentlemen have presented a very splendid resume and I wish to express my thanks.

Harry Goldberg: I have listened with great interest to the papers read, and one is impressed with the view that the more one treats arthritis as a systemic disease, the better justice can be done to the patient in formulating the plan of treatment. This means as Dr. McCarty brought out in his paper co-operation between the Internist, the Physiotherapist, the Orthopedist, and the physicians of the other specialties.

Rather, than confuse the subject, I shall limit my remarks to chronic arthritis or arthritis deformans, of which we have pathologically the two great types,—atrophic or rheumatoid arthritis and degenerative or osteo-arthritis.

Focal infections play an important role in all types; but the kind of infection varies with the type and the age. In children, infections of the upper air passages, especially of the sinuses, are important in this respect. In adults, it is the teeth, the genito-urinary tract, and the gastro-intestinal tract.

Toxic metabolic factors come next in importance. These are generally caused by intestinal insufficiencies. Visceroptosis is more often the cause than the effect of intestinal insufficiency; at any rate, it is a link in a vicious circle.

The effect of endocrines upon arthritis is uncertain. There are indications in some cases, however, that show the influence of the thyroid and ovarian function, especially in patients during the menopausal period.

It stands to reason, that if a good deal of general and special examinations precede or at least accompany the treatment of chronic arthritis, many potential causes will be disclosed. The point is to evaluate these findings properly as to their etiologic importance as foci. One should not go beyond reasonable probabilities and should leave mere possibilities alone. This will save many teeth from being extracted.

In arthritis of the spine, one is impressed with the inter-relation between it and the general health, and the necessity of hygienic measures and the restoration of proper body balance. This means regulation of the diet, rich in minerals and vitamines, and low in carbohydrates; elimination by massage or mild laxatives; proper support; outdoor life and any other means conducive to general improvement.

As to the local treatment, recumbency or bed-rest should be instituted until the painful stage has passed. The joint should be immobilized with a supportive or traction apparatus. This should be carried out until all muscle spasm has become relaxed.

When the painful stage has passed, ambulatory treatment can be undertaken. It is this stage where physiotherapy has its most beneficial effects. During this stage, the involved joints should have some support until the muscles have regained their tone.

In the cases where deformity is already present, Dr. Hudson has mentioned to you the various orthopedic procedures that can be undertaken to correct them, and also the operative procedures that can be utilized to relieve the patient of pain, in those cases where the articular surfaces of the joint have become so eroded, that there is no longer any hope of painless motion being restored. In regard to manipulating arthritic joints, especially those that have not borne weight for some time, I want to mention the danger of fat embolism. Instead of adhesions being broken up, the bone marrow is crushed, due to the marked atrophy of the bone, forcing fat globules into the blood stream.

The writers are to be congratulated for having thoroughly covered the field of arthritis and for having given us a complete resume of the subject.

A. C. McCarty, (in closing): Mr. President, Nothing much has been said in a critical way. I had hoped that we might get some more ideas on Medical Measures from the discussion here tonight. I realize how eagerly many men in the profession look forward to the discovery of a "specific" or panacea in the treatment of arthritis. Evidence of this may be gathered from the fact that three or four members of our society have come to me during the past two weeks asking for a preview of the paper which I read tonight. These men have a number of patients who are knotty problems, and are looking for something new and simple to bring relief. Unfortunately I could not offer them, from my own experience, the thing that they wanted; nor could I find it in the review of recent literature on this subject. There is no medical measure for the relief of arthritis, such as one finds in liver extract for anemia; specific rabbit or horse serum in pneumonia; protamine insulin in diabetes; adrenalin in asthma; etc. The successful approach to the treatment of arthritis must be a well-rounded program. Each patient should be treated individually, and therapy fitted to his demands. For those of you who would keep abreast of the modern trends in the treatment of arthritis, I would refer you to the review on the subject which comes out once a year in the Annals of Internal Medicine. This review is prepared by Drs. Hench, Bauer, White, and other associates, and while it is critical, it is no sense hyper-critical. I am convinced, just as much as ever, that with the diligent use of methods at our disposal, we can prevent most crippling arthritis. If patients are seen too late for this preventative therapy, then your suffered should be turned over to the orthopedist, and he will produce results which are a little short of miraculous.

CARCINOMA OF THE UMBILICUS, CASE REPORT*

James Robert Hendon, M. D.
and
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Carcinoma of the umbilicus may be either primary or secondary; either is very rare. The primary carcinomata may be of the squamous cell type or may be adenocarcinomata. The secondary carcinomata may have their source in the stomach, liver, gall bladder, small or large intestine, or in the ovaries or uterus. The structure of these secondary growths corresponds, of course, to that of the tissue from which they arose.

Although tumors of the umbilicus are not notably infrequent in occurrence, Cullen quotes a series of nine thousand deaths from cancer of which cancer of the umbilicus numbered two. Later reports may alter this figure considerably.

Primary carcinoma of the umbilicus arises more frequently from remnants of the omphalo-mesenteric or vitelline duct. This communicates embryologically between the yolk sac and the primitive gastro-intestinal tract of the embryo. Normally it disappears when the embryo is between four and twelve centimeters long, but it may persist in its entirety or in part as a patent duct or as a cord of cuboidal epithelial cells. When the internal portion of the duct persists a Meckels diverticulum is formed. When the midportion only persists and remains patent a cyst forms, and when only the outer part remains open a secreting sinus is present. If any segment of the persistent duct undergoes carcinomatous change the histologic appearance of the growth is nearly identical with that of carcinoma arising in the intestine.

It appears that the umbilicus forms the center of a lymphatic crossroads between the lower and upper abdominal wall and between the superficial and deep layers of the abdomen. The lymphatic vessels around the umbilicus communicate with the deep and superficial inguinal glands, the axillary glands, and directly or indirectly with all of the abdominal and pelvic viscera, hence the liberal opportunity for metastases.

Primary adenocarcinoma of the umbilicus usually develops as a very small nodule in the umbilical depression which may grow slowly or rapidly. It may be smooth or have a slightly papillary surface. With the increase in size there is a tendency for the surrounding tissue to become infiltrated and the central portions tend to ulcerate. A violet discoloration of the skin usually precedes ulceration and hemorrhage. Pain may or may not be present. Rapid metastasis is the exception rather than the rule.

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*Read before the Jefferson County Medical Society.

The patient whose case I wish to present is Miss O., age sixty-eight, white. Her history prior to November, 1934, was negative as to any digestive symptoms except chronic constipation, or any menstrual irregularities. She had been operated on some years ago for hemorrhoids. In 1934 she consulted her doctor because she was losing weight and because she had a small amount of odorless drainage from the umbilicus. A series of gastro-intestinal X-rays were made and numerous large diverticula of the tract were found, occurring in the duodenum, jejunum, and transverse and descending colons. The largest of these arising from the horizontal portion of the duodenum measured about ten centimeters in diameter. No connection was made out between any of these and the umbilicus. A small nodule was found at this time in the abdominal wall near the umbilicus. Operation was advised but this she refused. In two months time the discharge from the umbilicus ceased spontaneously. She had no further symptoms, except that she continued to lose weight gradually—about forty pounds in two years.

In December, 1936, she noticed a tumor about the size of a small lemon beneath the umbilicus. The growth was soft and not described by her as lumpy. In growing it seemed to extend bilaterally and the skin was freely movable over it. There was no pain or discharge from the umbilicus. In February, 1937, she consented to be operated on.

Seen at the hospital she appeared not acutely ill, but cachectic. A hard nodular tumor about the size of a grapefruit had its center in the umbilicus. The skin overlying this was freely movable and was not discolored. The tumor was attached to the underlying structures.

At operation an elliptical incision was made around the margins of the growth which was dissected free, the line of incision being always in normal tissue. The tumor appeared to be cancerous, having no capsule and being composed of friable tissue. It extended through the muscles and peritoneum and a large portion of the greater omentum was intricately bound into the mass, though there was no connection with the intestinal tract. In order to remove the growth completely it was necessary to amputate a large part of the omentum. Following removal of the tumor the patient's condition became bad and it was felt that further exploration would endanger her life. The pelvic and abdominal organs were palpated and no other gross lesion was found. With great difficulty the large defect in the abdominal wall was closed, one drain being left in place.

A wound infection delayed her discharge from the hospital but the wound healed completely, and there is no ventral hernia. Seen a few days ago, she feels fairly well, but weak and has gained about three pounds in weight. She still appears cachectic, but has no definite symptoms.

The tumor and sections of it were put in the hands of three pathologists for their examination. The pathological reports follow:

Gross Description by Pathologist A: Specimen consists of contents of a tumor mass and excised piece of skin. Skin will measure 15 x 2 cms, and has underlying connective tissue. The tumor mass will measure 10x6x5 cms, and is roughly heart-shaped; is cystic in areas, cysts containing degenerating and chocolate material.

The cut surface is multicolored, extremely friable, and the glandular substance may be easily scraped away with underlying heterogenous septae. Portions of invaded muscles are identified. Grossly, the tumor is thought to be a highly malignant sarcoma.

Microscopy: All the sections are composed of tumor tissue, except for one piece of omentum, which is invaded by neoplasm. The tumor is made up of papillary and cystic formations, supported by rather compact fibroconnective tissue, which is extremely sparse in the finger-like projections. The tumor is certainly glandular in origin. Adenomatous formations are frequent; all covered by epithelial tumor cells. It is thought to be a fairly high grade malignancy and should be moderately responsive to irradiation.

Numerous foreign body deposits are seen throughout the stroma. Several of these foreign bodies resemble ova tenia saginata. The tumor is thought to have escaped from the intestinal mucosa.

Diagnosis: Adeno-carcinoma;

Note: The above diagnosis is tentative; more sections will be cut and reported.

Description by Pathologist B: Seven large sections are available for examination. These show similar changes. The only recognizable normal histological structures are a few bundles of voluntary muscle and some coarsely lobulated adipose tissue. The bulk of the tissue is extensively infiltrated by a highly papillated neoplasm composed of tall columnar cells growing in complex groups, nests and folds. Some of the cells are stratified. A majority of them have large, irregular nuclei with a single large nucleolus surrounded by a light stained bluish halo. Some of the nuclei are vesicular and many are eccentric in position. The cells with eccentric nuclei are ''signet ring'' in appearance. There is considerable variation in cell size and poor definition of their cytoplasmic border. The general architecture is that of a papilliferous adenocarcinoma having stalks of varying length. Some of the stalks have a cellular, some have a hyaline, and some a myxomatous stroma. There is also a variable amount of mature, but mucoid connective tissue between the nests of carcinoma cells.

Interpretation:

Papilliferous adenocarcinoma, infiltrating abdominal wall.

Description by Pathologist C: There are three sections containing no normal histological structures other than skeletal muscle and adipose tissue. All of them show a fibrous stoma encircling various shaped and sized alveoli lined by stratified columnar epithelium, and in the lumen of which there are irregularly shaped plications and papillary processes also covered by stratified columnar epithelium. In some areas these projecting processes are seen to be attached to the wall of the alveoli. The epithelium in many places shows mitotic figures. The cytoplasm stains a fairly dark blue color while the nuclei are large and lack polarity, stain palely and are vesiculated. The stroma of the plications appears myxomatous, while that about the alveoli in many instances appears hyalinized. It is not very vascular.

(This is a malignant epithelial neoplasm. Probably metastatic in this situation, it may have arisen from the gastro-intestinal tract or even the pancreas. A more likely origin, however, is from a papillary cystadenocarcinoma of the ovary.)

Interpretation: Metastatic papilliferous cystadenocarcinoma (umbilicus).

The mention made by Pathologist A of the presence of cysts containing degenerating and chocolate material will no doubt suggest the possibility of endometriosis. Endometrial transplants in the umbilicus do occur and malignant change in such transplants has been observed.

This case has been of intense interest to me because of the rarity of umbilical carcinoma, whether primary or secondary, because of the coincidence of and possible connection between the umbilical lesion and the intestinal diverticula, and because of the still open question as to the definite source of the carcinoma.

DISCUSSION

A. J. Miller: There are quite a group of neoplasms which do not lend themselves very well to specific interpretation and I believe that Dr. Hendon's case is one of this group. There are two methods, as far as the use of the microscope is concerned, that can be followed in order to arrive at a definite conclusion. One is the study of the structures in order to fit them into some pattern including the morphology of the cell and the cell's arrangement to other cells. The other is by the process of exclusion.

The first method cannot differentiate this tumor from others that might occur here. The cells are columnar in type. Many neoplasms might occur here, including primary and metastatic ones, with this cell type. They include metastatic growths from the bile ducts, pancreas, gastro-intestinal tract, ovaries, and uterus, and primary growths from the vitelline duct or allantois.

Some of those which have been reported as derived from the vitelline duct contained smooth muscle, but that structure was not found in this growth.

A primary growth from the pelvis was fairly well ruled out by palpation, and a urachus tumor may possibly be excluded because most of them have squamous epithelium.

It seems impossible with the information at hand to definitely classify this growth save that it is a malignant epithelial neoplasm.

Research on Icterus: Graffar noticed that pathogenic icterus resulting from the administration of arsenic to syphilitic patients constitutes a controversial subject. In some patients the icterus is toxic and in others a single hepatic relapse or even a simple infection of the liver. which has been weakened by the specific virus and the arsenic. The toxic theory is the least plausible, since most patients can well tolerate new arsenical administrations during jaundice and be cured and after cessation of the icterus continued neoarsphenamine treatments will not cause the icterus to recur. But, concerning the hepatic symptoms, it is possible that injections of arsphenamine for syphilis make the liver prone to simple infections which differ little from common catarrhal jaundice. The author mentions seven cases of icterus following treatment by bismuth alone. A differential diagnosis will have to be made from gastro-intestinal disturbances which readily disappear with antisyphilitic treatment. Some authors see in this type of icterus a fortuitous infectious disposition. The presence of spirochetes in the liver could not be demonstrated at necropsy, although the spirochete seems to have a great affinity for the liver in heredosyphilis, thus causing the death of the infant but never of the adult.

DIAGNOSTIC SIGNIFICANCE OF HEMATURIA*

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The incidence of hematuria in general practice is a rare occurrence, being present in less than 3 per cent of all cases, while in urological practice Grant (1) states that approximately 10 per cent of office and 20 per cent hospital cases will either show gross or microscopic blood. It must also be remembered that in nearly 50 per cent of these cases, tumor exists, and, that a large majority are malignant. Unfortunately many have medical or symptomatic treatment without the least idea of where or what the pathological lesion may be, with slight abatement or disappearance of the symptom only to recur at a later date, during which time the lesion may have advanced to such an extent that treatment will be of little or no avail, hence, it behooves us to consider what appears to be a simple matter into a serious one until proven otherwise by an early urological study. Hematuria is rarely constant, most usually intermittent in character, days or even months may intervene between attacks and its cessation is certainly no indication of cure.

Hematuria will be briefly considered in three main groups, and subdivided according to the etiology.

1. The Medical Hematuria.

2. Hematuria the result of inflammatory lesion adjacent to the urinary tract.

3. The Surgical Hematuria.

In the first group we construe to mean a complication of some systemic disease, comprise 25 per cent of all hematurias and its source frequently originates in the upper urinary tract.

The etiological classification is as follows: 1. Those relative to the hematopoetic system, characterized by a prolonged coagulation time and a platelet deficiency. (a) Hemophilia is a hereditary disease occuring most usually in the male and due to the delay both of coagulation and prothrombin time and hematuria when present, is, as a rule slight and of short duration. (b) Purpura Hemorrhagica, characterized by capillary ecchymosis, platelet deficiency, normal coagulation time and splenic enlargement. A mild hematuria has been observed in 15 per cent of 135 cases studied by Locke and Minot (2) (c) Leukemias, Hodgkins disease and lymphosarcoma hematuria has been observed in cases presenting slight external manifestations before a diagnosis has been made, however in the presence of glandular enlargement and changes suggestive of anemia the diagnosis should not be difficult. (d) Erythemia, characterized by an excessive erythroblastic activity with subsequent capillary engorgement leading to a red cyanotic appearance of the skin and mucous membranes is conducive to hematuria of varying degrees.

2. Those conditions not associated with the blood dyscrasias namely: Idiopathic purpura, urticaria and angioneurotic edema, which may be the cause of hematuria, scant or profuse, last for weeks and with frequent exacerbations.

3. Infections (tonsils, typhoid and scarlet fever, diphtheria, malaria, influenza, septicemia, etc.) produce toxic lesions of the kidney with hyaline degeneration and commonly known as acute nephritis in which hematuria may be profuse in connection with other urinary findings of albumin, hyaline and granular casts.

4. Hematuria due to drugs, dietary indiscretion, exercise, exposure to cold, etc.

Second group. Hematuria the result of inflammatory lesions adjacent to the urinary tract is frequently encountered, and is the result of periureteral or pericystic involvement from carcinoma of the sigmoid and pelvic organs; pelvic inflammatory disease, appendicitis and hernia involving a portion of the urinary bladder.

3. The surgical hematurias of which we are primarily concerned may be mild or profuse, constant or intermittant in character, and may be divided into three groups according to etiology, namely: Infection, trauma and new growths and each discussed according to the source.

Surgical hematuria constitute 70 per cent of all hematuria. Rothbun (3) in a study of 1500 urological cases exclusive of diseases of the external genitalia, 203 or 13.5 per cent, hematuria was the outstanding symptom. In a group of 106 tumors 88 gave hematuria as the first complaint and from causes other than tumor, 45 or 22.1 per cent of the 203 cases, blood was found in the urine.

Kretschmer (4) in a review of 300 cases of carcinoma of the bladder, found a history of hematuria in 92.33 per cent and he believes the remaining 7.67 per cent presented blood at some time or other but failed to note it. Burford (5) believes that hematuria is almost universally the first symptom of tumors of the kidney and unfortunately many malignant varieties do not bleed until well advanced. Jeck (6) states that next to frequency, hematuria is the most important symptom of tuberculosis of the kidney.

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1. Renal sources: (a) Infections involving the renal pelvis (pyelitis) is by far the most frequent and probably the least of all kidney conditions producing hematuria (tuberculosis excepted) and is a predisposing factor in the production of calculi and hydronephrosis. Infection by way of blood stream, lymphatics or pyelovenous backflow are conducive of pyelonephritis and as a rule only show microscopic blood; is of minor significance and is to be considered in connection with a history, and, clinical course of the disease. Tuberculous infections are as a rule blood borne and usually attack a papilla, producing an ulceration and characterized by a moth-eaten appearance as revealed by the pyelogram, and hematuria is undoubtedly the first sign, though not detected early because of microscopic in character until the presence of vesical irritation, which is secondarily involved, followed by gross blood when the pyelogram will usually show a rather marked lesion.

Embolism and thrombosis of the renal vessels, nephritis hemorrhagica, commonly termed "essential hematuria" and other chronic inflammatory diseases of the renal pelvis which produce hematuria are pyelitis granularis and cystica and leukoplakia. (b) Trauma the result of a direct blow with rupture of the kidney or a hydronephrotic pelvis, may or may not produce hematuria, depending upon the extent and portion of the kidney involved, however, hematuria following an injury justifies careful observation. (c) New growths benign or malignant involving the renal pelvis or parenchyma, theoretically should all produce hematuria, however, Mixter (7) remarks that hematuria is rare in malignant tumors of childhood. Solitary and polycystic conditions of the kidney, both of which are congenital in origin, rarely produce hematuria except by secondary obstruction and congestion by compression of the renal vessels, rupture of a cyst or unless secondarily infected. Calculi produce hematuria in varying degrees, sometimes the chief and only symptom.

2. Ureteral sources of hematuria may include neoplasms, strictures, calculus, ureteritis particularly the chronic variety; cystica and granularis, tuberculous infections and trauma with subsequent rupture.

3. Vesical sources of hematuria might be enumerated chronologically according to its prominence as a symptom: Neoplasms, particularly those of the epithelial variety (papilloma, papillary carcinoma, adenocarcinoma, etc.) are the most frequent of all bladder tumors, are conducive to hematuria in varying degrees and considered the most outstanding symptom. The mesothelial and heterotopic varieties including the sarcoma, fibroma, hemangioma, dermoid, teratoma, etc., are next in order. Of the remaining vesical conditions of which hematuria may be present, though not the chief complaint may be mentioned; simple acute cystitis, tuberculous ulcerations, cystitis cystica and granularis, pseudomembranous cystitis, leukoplakia, and submucous fibrosis, simple cysts about the bladder neck, diverticulum with impacted stones, trauma, calculi and foreign bodies.

4. Hematuria produced by lesions found in the urethra and associated organs are always observed in the urine first passed or at end of urination (terminal) except the intravesical prostatic hypertrophy or carcinoma which in the latter conditions blood may be diffused throughout the urine, and prostatovesiculitis which usually occur after ejaculation, are given in order of their frequency: Chronic posterior urethritis and stricture, benign hypertrophy of the prostate, neoplasms, (both benign and malignant) of the prostate and urethra, trauma with or without ruptures from injuries, urethral diverticulum with stone impaction and prostatovesiculitis.

Conclusion

1. We must remember that gross or microscopic hematuria denotes definite pathology in the urinary tract.

2. That the first symptom usually presented is hematuria in all kidney, ureter and bladder tumors.

3. That a complete urological survey is indicated (unless the origin and significance is definitely known) and the best time for such an examination is while the bleeding is present.

4. That the prognosis, morbidity and mortality is in direct proportion to the time, source and cause of hematuria, and effective treatment rendered.

BIBLIOGRAPHY

1. Grant, Owsley, Personal Communication.

2. Locke and Minot, Jour. A. M. A., 83, 1311, 1924.

3. Rothbun, N. P., Hematuria, Jour. Urology. Vol. 30, Page 15-26, July 1933.

4. Kretschmer, H. L., Carcinoma of Bladder, Ill. Med. Jour. 63, 454, 1933.

5. Burford, C. E., Tumors of Kidney, Jour. Mo. State Med. Assn. 29:474, 1932.

6. Jeck, H. S., Renal T. B., Jour. A. M. A. 92:300, 1929.

7. Mixter, C. B., Malignant Tumors of Kidney in Infancy and Childhood, Annals of Surgery, 96:1017, 1932.

MANDELIC ACID, A NEW URINARY ANTISEPTIC*

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The use of mandelic acid has occasioned a good deal of interest in the medical profession. It holds forth hope of aiding certain cases of urinary infection which heretofore have gone practically untouched. In this short paper we hope to combine our experience with that of others in indicating the usefulness and also the limitations of this drug.

In 1917, Shohl and Janney showed that the hydrogen ion concentration of the urine affected the growth of bacteria. They were able to demonstrate that B. coli were retarded in their growth with a pH of 5.0 or less and, on the alkaline side, of 9.2 or more. Clark and Helmholz discovered that ketone bodies in the urine had bactericidal properties. This paved the way for a number of therapeutic developments. Although a patient placed on the ketogenic diet developed a highly acid urine it was soon realized that the acidity of the urine was not the prime bactericidal agent. An investigation was started in search of this bactericidal agent by A. T. Fuller, of London, and it was carried out in the following manner.

The usual constituents of urine such as urea, inorganic salts, phosphates, proteoses, amino-acids, etc., were removed and tested for their bactericidal properties and found to be not effective. After the lactic acid was removed a levo-rotatory form of beta-oxybutyric acid was left, this being found to possess definite bacteriostatic properties. It is well known in physiological chemistry that beta-oxybutyric acid is a by-product of the incomplete combustion of fat within the body and is therefore the product of an abnormal body metabolism. If the body, therefore, was in a proper state of metabolism uninfluenced by an abnormal diet such a product as beta-oxybutyric acid could not exist. In order to produce this within the body it is necessary to put the patient on a very high fat-low carbohydrate diet which is ordinarily termed the ketogenic diet. The ketogenic diet, as a usual thing, is very unpalatable and the patient may refuse it due to its nauseating effects and its inconvenience.

M. L. Rosenheim, of London, proposed to find some organic acid of a similar nature which could be administered by mouth and excreted without change in the urine. Such an acid, if excreted without change in the urine and if non-toxic, should be able to replace the ketogenic diet. Various fatty acids were tried but were found unsatisfactory. Mandelic acid, an aromatic acid, was shown in 1863, by Schott, to be completely unaltered in the urine following administration to dogs. This work Rosenheim repeated and found to be correct. From this, he applied the principle to humans and published a preliminary report of its clinical application in The Lancet of May 4, 1935.

At the present time mandelic acid is offered to the medical profession in a great number of forms. Some prefer to administer the mandelic acid in conjunction with ammonium chloride or sodium biphosphate, while others prescribe a preparation of sodium or ammonium mandelate. The mandelic acid itself is more stable than its salts and it is somewhat to be preferred from a pharmaceutical standpoint, although it is usually necessary to combine it with some acidifying agent.

It has clearly been shown that the effect of mandelic acid is proportionately increased as the acidity of the urine is also increased. It is for this reason that most prescriptions include some acidifying agent, this often being further supplemented by placing the patient on an acid-ash diet. The fluid intake should in each case be limited to 1200 cc. or less per twenty-four hours.

It has been stated by pioneer workers in this field that the drug is by far the most effective against the bacillary type of organisms, B. coli alone being responsible for seventy-five per cent of urinary tract infections. Mandelic acid usually shows some improvement clinically in the coccus group, but seldom, if ever, results in a negative culture of the urine. Bacillus proteus and bacillus pyocyaneus, however, have yielded little to this type of medication. We have also found —as have others, that whereas the Bacillus colon apparently is completely eradicated upon administration of the drug, following suspension of the drug there is often very definite recurrence. However, this is usually less severe and promptly yields to a second administration of the drug. Each case when placed on mandelic acid goes through the following routine:

A catheterized specimen of the urine is microscopically examined to determine the amount of pus and the morphological appearance of the infecting organisms if possible. A large percentage of these urines are then cultured to determine the exact type of infection. The acidity of the urine is determined by means of a very simple chemical outfit produced by the LaMotte Chemical Company. A patient may easily learn to use this apparatus himself. We believe it essential that an accurate determination of the source of the infection, as well as the presence of any pathological changes in the urinary system, should be determined prior to the instituting of treatment. The presence of grave pathology such as pyonephrosis, draining sinuses, foreign bodies, etc., markedly diminishes the effectiveness of this treatment. A patient selected for this therapy usually receives 12 grams of mandelic acid in four divided doses, after meals and at bedtime. This preparation is, of course, supplemented by either the administration of ammonium chloride or sodium biphosphate in sufficient amount to render the urine acid at least to a pH of 5.5. When it is impossible to acidify the urine by this means the ketogenic diet or the high acid-ash diet is used in conjunction with our medication.

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When the desired acidity has been reached it is usually found that the urine becomes bactericidal in forty-eight to seventy-two hours, although a large proportion of the bacteria are not entirely eliminated from the urinary tract for some days following this. Most patients tolerate mandelic acid quite well. However, there are certain ones who prefer their disease rather than the treatment. A fair number of patients experience nausea in a greater or less degree. This may be overcome somewhat by reducing the dosage temporarily, administering it after meals, or masking it in some conveyance such as milk.

One of our patients refused the treatment because of the severe diarrhea and cramping he experienced and we failed to relieve this by any of our suggestions.

It has been claimed that mandelic acid is a distinct renal irritant. This I believe to be true, since following its administration we have noticed that pus and bacteria have disappeared but their place has been taken by a shower of red blood cells and granular casts. These red blood cells and casts promptly disappeared within twenty-four hours after cessation of the drug. It is for this reason that it is thought best that the drug should not be continued longer than two weeks at a time and that it should not be administered to those showing a definite renal insufficiency. Likewise, it is of little value in those kidneys where the function is so poor that the concentration of the drug excreted is insufficient to be of any value, such as the tuberculous kidney. The large hydronephrotic kidney seems to do fairly well, due to the fact that the urine is static and although the excretion of the drug may be scanty, nevertheless it has a longer time to act upon the infected areas.

We have had one case in which the pus and bacteria almost disappeared but the patient suffered a very severe gross hematuria with more bladder irritation than had been present with the infection.

It is thought among those who have used the drug that if a favorable result is not obtained within the first four or five days that it should be discontinued as it most probably will never be effective.

Let me cite a few of our early but rather interesting cases, all of whom received adequate treatment in the form of cystoscopic kidney lavage, prostatic massage, bladder irrigations, and urethral dilatations. These methods failed to relieve entirely any of the conditions in the cases to be presented.

Case 1. Mr. B. was operated on for a large stone in the pelvis of the right kidney, a pyelotomy being done with no resulting complications. Following his operative procedure the urine was loaded with bacteria, 20 to 25 pus cells and no red blood cells. A culture of the urine showed B. coli. For one year following his operation he was placed on various types of urinary antiseptics as well as a ketogenic diet which he tried to follow at home, all with very little effect. On 10-20-36 he was placed on mandelic acid, 2 drams four times a day, and on 11-13-36 his urine had a pH of 5.0 and showed 6 to 8 pus cells and only a rare bacteria. The mandelic acid was discontinued and promptly there was a recurrence of his bacilluria and pyuria but of a less severe extent.

Case 2. Mr. M., was seen on 7-23-36 with a very definite prostatitis. The urine was loaded with bacteria and showed 30 to 40 cells. On 10-16-36 he was placed on mandelic acid and on 10-27-36 the urine was clear, the pH 5.0, and was microscopically and culturally negative.

Case 3. Mr. T. was first seen in May, 1936, with ptosis of the right kidney associated with a pyelitis and prostatitis. The urine was loaded with bacteria, 25 to 30 white blood cells, and the culture showed B. coli. The patient was placed on mandelic acid after various other antiseptics were unavailing and on 11-5-36 his urine showed a pH of 5.2; the urine was negative microscopically and on culture. Subsequently this patient discontinued the use of mandelic acid and showed some slight recurrence, but at the present time he finds that even as little as 1 dram daily will keep his urine perfectly negative.

Case 4. Mr. W. was first seen in 1934, complaining of frequency, burning and some pain over both kidneys. A thorough urological examination revealed a bilateral pyelonephritis with a dilatation of both kidney pelves and ureters with some tortuosity. There was associated with this a very marked prostatitis. On 10-31-36 the urine showed a pH of 7.5, 30 to 40 pus cells and was loaded with bacteria. The patient was placed on mandelic acid and ammonium chloride and one week later the urine showed a pH of 7.2, 25 to 30 pus cells and was loaded with bacteria. Every means was now taken to produce acidity by increasing the ammonium chloride and placing the patient on an acid-ash diet. One week later the pH was 7.0. The urine at this time was still loaded with pus and bacteria. Some continuation of the treatment after this time failed to change his condition in the least. The infecting organism in this case was B. pyocyaneus.

Case 5. The patient was seen on 8-10-36 with an acute anterior and posterior urethritis and prostatitis of gonorrheal origin. Various urinary antiseptics had been used in this case and it was decided to place the patient on mandelic acid after other antiseptics had failed to clear up his infection. On 10-31-36 his urine showed a pH of 6.3, and 25 to 30 pus cells, with gonococci in the prostatic secretion. He was seen one week later stating that the medication increased his burning and frequency to such a marked extent that he refused to take it. This was our experience as well as others' in acute gonorrheal infections.

Case 6. Mrs. L. had been seen over a period of two to three years with a diagnosis of cystitis and urethritis. The infection had been extremely severe, the urine being loaded with pus and bacteria. The urethra, as well as the bladder, was intensely injected. On 10-27-36 the patient was placed on mandelic acid. On 10-31-36 the pH of the urine was 4.7, showed 2 or 3 pus cells and no bacteria. On 12-1-36 the pH was 5.5 and the urine was perfectly clear. Nothing further has been heard of this patient since that time.

A rough analysis of our cases would show that we have obtained a good result in 47 per cent; some improvement in 34.7 per cent and no improvement in 17.4 per cent. Our conclusions are that:

1. Mandelic acid is the most effective form of medication in the treatment of colon bacillus infections of the urinary tract which we have at the present time. It is also helpful in other types of infections.
2. Mandelic acid is much more satisfactory than the ketogenic diet from the standpoint of the patient and also from its effectiveness.
3. We believe the drug should not be continued for more than 2 weeks at a time and that its use is contraindicated where there is evidence of marked renal insufficiency.

OBSTRUCTIONS ABOUT THE VESICAL NECK IN CHILDREN*

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We have so long thought of bladder obstruction as being almost synonymous with old age that it is with some sense of surprise we grasp how much of the obstructive results are foetal maldevelopments which appear about the bladder neck in infants and very young children. For a great many years these lesions have been overlooked or scant attention has been paid to them, because urinary disorders in children are so frequent it has become seemingly perfectly natural that there shall be some derangement of the urinary habits and practices of all infants, and that even up to the age of puberty an occasional bed-wetting or some disturbance with the urinary stream is not looked upon as particularly indicative of serious changes in the child.

With the development of the finer instruments of precision in Urology—that is, those small cystoscopes which permit us to look into babies' bladders and even to catheterize their ureters, we have come to realize that many of the symptoms we have considered so placidly are really the danger signs of very serious changes which ultimately have much effect upon the longevity of the child. Since it has been pointed out to us that there are so frequently changes in the bladder neck in children, we should be especially on the lookout for them and we find that many of the ordinary symptoms which formerly were accepted as natural now call our attention to the importance of immediate urological examination.

We recognize that these lesions progress in adult life to the ultimate destruction of the kidney, and that it is important that they be detected as soon as possible. With children the same is true, and it is even more important these things be corrected early in children, because not only does destruction take place but the normal development of other portions of the body is in great measure dependent upon satisfactory excretory organs.

It must not be thought that all lesions which are obstructive in young children are necessarily at the bladder neck. This is the site of perhaps the most frequent obstructions in the urinary tract, but it is not the sole one. However, our discussion tonight will deal entirely with obstruction in this immediate locality.

What do obstructions in the urinary tract really do? First of all, they cause changes in the bladder in their attempt to overcome the obstruction if it be only partial. This muscle first hypertrophies in the effort to force the urine past the obstruction; then, when hypertrophy has reached its maximum, the bladder loses its tone and further power to multiply the muscle cells within its structure and it becomes definitely thinned out and dilated. This is what is called a stage of decompensation of the bladder. With this loss of tone there is always considerable collection of urine which is not voided but remains in the bladder, and it is likely to become a focus of infection. In addition to this, there is created by the full bladder a definite pressure against which the kidneys must secrete and this being a greater pressure than is normally maintained by the empty bladder, there is a subsequent increase in effort on the part of the kidneys. As an ultimate result dilatation of the muscular walls of the ureter takes place and extends up into the pelvis itself, finally dilatation of the pelvis, and with it encroachment upon the secreting renal substance which ultimately impairs seriously the kidney function.

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*Read in Symposium before Jefferson County Medical Society, April 1937.

The initial symptoms which call attention to obstruction at the bladder outlet are always such as to point to bladder involvement; frequency, dysuria, etc. Although the bladder may be distended to the umbilicus and the stream of pinpoint size we do not have greatly to concern ourselves about the bladder because that organ's function is not vital to the maintenance of life; it is only a by-product, a reservoir. It is important for us to remember that the results of backpressure and infection do have a very serious and deleterious effect upon the kidneys themselves, because these are the vital organs, and it is all important to correct the cause of the disturbance before any serious damage can be done to these delicate structures. In partial obstruction there may be no very flagrant symptoms such as occur when the occlusion is complete, but there are lesser evidences such as moderate straining, frequency and enuresis. The cases with partial obstruction may be easily overlooked unless the patient is very closely examined, but when the child reaches the age of puberty or early adolescence he then begins to manifest the results of this partial occlusion which has been taxing and straining his bladder and kidneys for ten or twelve years. It is then often too late even to alleviate a condition which could have been prevented with ease in infancy. A typical case is one under our care now of a boy of 13 years who gave a history of having had difficult urination since early childhood and he has never been strong and healthy. He came under the observation, about 6 months ago, of a good pediatrist who saw immediately, when he was unable to catheterize the boy, that some definite lesion was at the bladder neck. We found stenosis of the bladder neck with 20 ounces of foul residual urine. Although he was drained and cared for with extreme effort he has had no evidences of recovery of his renal power which is practically nil. We relieved his bladder obstruction with ease so that he now voids satisfactorily but his ureters are greatly dilated and his kidneys of such low function that it is difficult to see how he can maintain life and it seems certain that he cannot very much longer. It has been six months since we relieved his obstruction but there has been no evidence of the least improvement in his kidney function.

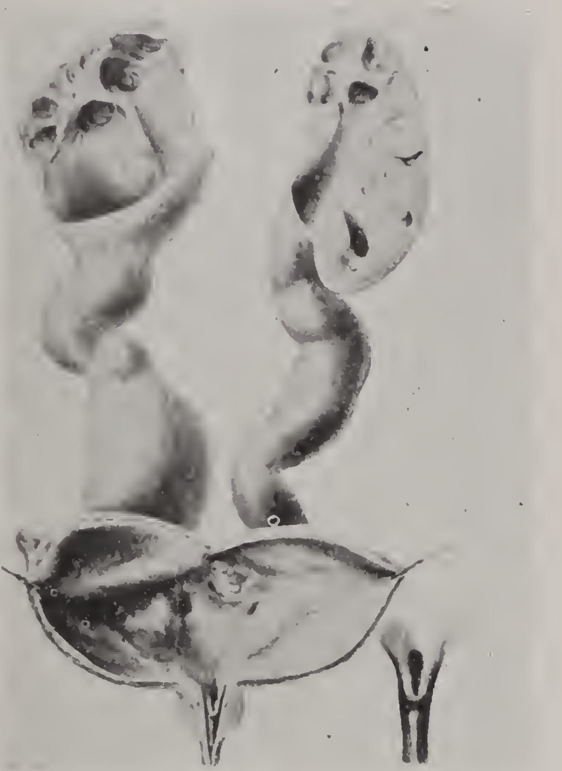

Plate I
Posterior urethral valves with ensuing renal destruction (Young).

If we are to look for the symptoms and signs of obstruction in young children, in what direction must our study fall? First of all are the local signs. The local signs of urological obstruction are the evidences of straining and stress which the patient presents on attempting to void, probably definite frequency, and a persistence of inability to control or regulate the urine for long beyond the diaper stage. In this group also comes nocturnal enuresis which in many cases is occasioned by some irritative obstructive lesion at the posterior urethra, and not at all is it the result simply of bad habit in the child. In studying the local symptoms we have enumerated it is well to keep in mind the fact that the urine itself is often highly significant of some change. Blood and pus are never normal constituents of the urine, and in any child the detection of either should be looked upon as very definite indication of pathology. This is even much more true in children than in grownups because there has been less opportunity for infection to have taken place in the urinary channel. Another local sign of importance is the evidence of a mass over the symphysis pubis which sometimes may feel almost as if it were solid, so tightly distended is the bladder which constitutes this mass. The genitalia should be examined likewise for malformations. It is so frequently true that in the presence of one anomaly in children there are usually others to be found in the same child. There are many times eternal evidences of malformation which indicate some changes in the internal mechanism which are not available to sight.

With regard to the general symptoms, we find their variance principally measured by the reaction of the individual child and the severity of its lesions. These general symptoms are high fever, malnutrition, chills and gastro-intestinal disturbances, and because just this group is so often encountered in children's diseases they are not likely to escape detection. Many times these symptoms arise entirely outside the intestinal canal, or that portion of the body with which they are most commonly associated, and have their origin in the urinary tract, occasioned by obstruction and infection. Injury and dysfunction of the kidney can give symptoms which are like uraemia, and so affect the child's metabolic complex, that the most prominent symptoms may be those ordinarily associated with gastro-intestinal disease, such as vomiting, flatus and poor digestion.

The area comprised by obstruction at the vesical neck might well be considered from the verumontanum through the sphincteric margin to the beginning of the trigone itself. It comprises a very small portion of the child's anatomy but it does represent what might be termed the ''convergence point'' of the urinary system, because it marks that position where there is the most abrupt change in caliber in the entire passage of the canal, that is, where the urine passes out of the bladder directly into the very much smaller urethra. About this area there are some peculiarities in normal construction it is worth while to note. First of all, there is what is known as the internal sphincter of the bladder. This structure is of involuntary muscle and is controlled by a complex nervous mechanism. Normally the sphincter is closed but when the bladder fills or some urine seeps into the posterior urethra, a reflex stimulation takes place which causes the sphincter to open. In close connection with this type of muscle on the inside of the bladder is the trigone which is that portion of the floor of the bladder between the openings of the two ureteral orifices and the orifice of the bladder itself. This triangular area is quite distinct from the remainder of the bladder in that it is elevated from the floor and is composed of a base-work of very definite muscular tissue known as Bell's muscle. This structure is the most sensitive and the most important part of the whole bladder. It is indeed so important that the entire bladder except the trigone may be removed and the bladder surface will be regenerated in a comparatively short time.

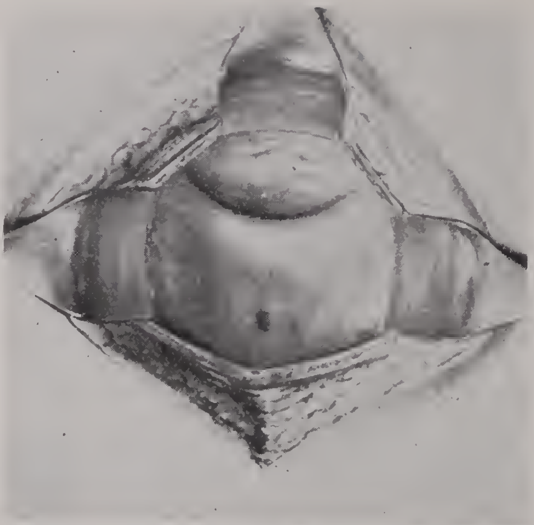
Plate II
Hypertrophied ridge and trigone causing obstruction (Young).

On the other side of the bladder sphincter in the male child, in which obstructions are more frequent than in the females, we see the beginning of the prostatic urethra and along the floor of it the verumontanum. The ordinary size of a child's urethra from 2 years up to 10 years will admit easily a number 8 to number 10 French sound or catheter. This does not mean that the urethra does not grow during this time, but even in a very young child the normal urethra is very easily dilated so as to admit an instrument of that size. The verumontanum itself is not ordinarily important in a child's life, it being a structure which should rise only slightly from the floor of the urethra, but it does very definitely present a comparatively larger elevation in the child than in the adult. When we look, however, to the causes of obstruction at these areas we see that they are so very distinct they are not difficult to diagnose and are easily remedied. In the posterior urethra one may find, first of all, that the verumontanum has enlarged to such a degree as to be definitely obstructive to the outflow of the urinary bladder is almost al-although the remainder of the mechanism in this area may be quite normal. These verumontana are probably associated in some way with the sex function in the male and it is not known why there should be definite instances of their hypertrophy in children; however, the finding is not particularly rare. How shall we discover this enlarged verumontanum? We feel that obstruction to the outflow of the urinary bladder is almost always detectable by the passage of a catheter. The passage of a catheter through the urethra indicates two things: first, the obstruction, if any, may be of a valvular type which may be readily pushed away by so firm a thing as a catheter going in the reverse direction from which the urine flows; second, the obstruction may be real, that is, there is a definite narrowing of the caliber of the urethra occasioned either by some fibrous formation or by some evidence of muscular spasm which prevents the catheter from passing further. In the case of enlarged verumontanum the structure is soft and the catheter passes quite easily so that there is no evidence of any obstruction to its passage from the meatus into the bladder. This in itself is one of the important diagnostic facts in accordance with the determination of disease in this portion of the urethra. Another type of obstruction which presents precisely the same symptoms, and frequently even more severe ones than does enlarged verumontanum, is the formation of valves in the posterior urethra. These valves are nothing but unfolding of mucous membrane from the floor of the urethra, but it so happens that as they fold up they have their concavity directed towards the bladder, so that when the bladder attempts to empty itself into the urethra it presses into these folds and blows them out as a wind does a sail and they are absolutely obstructing to the further outflow of urine. When the apex of these folds is pointing towards the meatus the catheter passes by them quite easily, simply pushing them aside. With a valve type of obstruction we find it quite simple to pass the catheter into the bladder and evacuate the urine, yet the patient may have great difficulty in voiding and may be unable to empty his bladder at all. In other words, the obstruction is not one of caliber of the urethra. There are two other types of bladder obstruction (or better, bladder distention) which are occasioned by a structure that is formed inside the bladder and acts much in the same way. This type of case is best presented by a history we shall relate here.

Baby W., 14 months old, has been under the care of a doctor for 4 months and during this time there has been considerable difficulty in voiding, but the patient has never had complete retention. The doctor catheterized the patient with great ease several times during this period, and the child would go along without distress for a week or 10 days or longer and then have this difficulty again. With the present attack, however, the patient is unable to void at all and was referred to us for examination. A number 10 catheter passed readily into the patient's bladder and evacuated its contents which were 14 ozs. of perfectly clear urine. A number 10 cystoscope was then introduced into the patient's urethra and it was seen that there was a definite ball valve-like structure that looked precisely like the median lobe of a prostate on a pedicle that lay in just such a position that it obstructed completely the ureteral orifice when the bladder was compressed. An attempt was made to fulgurate this area but because the instrument was so small it was difficult to accomplish. The following day a suprapubic incision was made and this tumor which was about the size of a man's thumb, on a pedicle which was no larger than a pencil, was grasped with a pair of forceps, twisted off, and the base cauterized with the electric cautery. The baby had no postoperative difficulties and drained suprapubically for 4 days; the suprapubic catheter was then removed and since that time the baby has been able to void without any difficulty whatsoever.

This illustrates a valve type of formation which may take place inside the bladder. In this area, there may also be found a cause for obstruction in hypertrophy of the ridge which connects the two ureteral orifices and thus swings against the opening of the bladder exactly as if a curtain were stretched across it. We have one very interesting case of this type in which the baby was first seen when 4 months old. There was swelling in both flanks which proved to be enormous bilateral hydronephroses at this time, a large bladder extending well beyond the umbilicus, and the child was practically moribund when seen. Cystoscopic examination did not reveal any particular evidence of obstruction to the bladder in this area when it was made in rather hurried form and it became quite evident that if there were not some definite obstruction at the bladder neck, nephrostomy was the only thing to save the child's life. Because of the fact that the operation of cystotomy might not effect relief, a bilateral nephrostomy was done at once. The patient recovered rather slowly and tediously from this but within a week or 10 days was in excellent condition. It now became possible to make a little more thorough study of the child's bladder and at that time it was seen that there was a ridge stretching across from one orifice to the other which formed a curtain that excluded any possibility of the urine passing from the bladder when this curtain was stretched across the orifices. A suprapubic cystotomy was done at this time and the curtain removed by a V-shaped incision.

This patient ultimately made a perfect recovery and it is now a period of several years since the first operation was done and the child is healthy and in school. We believe that had surgical procedure been delayed for a period of 1 or 2 days further in this patient's condition when first seen the outcome could have been nothing but fatal and indeed we felt it quite probable that it would be so when the nephrostomy was done. This type of case also admits a catheter into the bladder without obstruction but when the reverse flow of urine attempts to take place it closes it perfectly with a valve.

There remains one other type of bladder retention in which the catheter can be passed readily into the bladder and yet in which no valve is present. This type of bladder distention is due entirely to a nerve paralysis of the sphincter. This may happen when the nerves which customarily bring about involuntary relaxation of the bladder sphincter are in some wise either damaged by congenital deformities of the spine or by injury in children, resulting in tonic spasm which prevents the sphincter from relaxing and which then causes complete retention as can a definite stricture itself. Diagnosis of this condition is extremely difficult because nothing can be seen with the cystoscope, neither valves, tumors, nor enlarged ridges, and one must then revert to neurological examination in order to determine the cause of this The outlook for this type of patient is not very satisfactory, owing to the fact that nervous diseases which cause changes so extensive as to involve the sphincter are rarely amenable to treatment in young children.

In the cases of obstruction to the outflow of urine as occasioned by the posterior valves and verumontanum, the remedy is perhaps the simplest of all those which present at the vesical orifice. This is accomplished usually by a high frequency current which can be applied through the cystoscope directly to the verumontanum and shrink it to its normal size. Likewise, the valves which balloon out and prevent the outflow of urine can be incised by this electric current and they are not likely to recur once their billowing surfaces have been divided.

There is a type of obstruction which occurs at the bladder neck in which there is some definite resistance met by the catheter as it attempts to pass into the bladder from the meatus. Stricture itself is rare in the posterior urethra although it may be congenitally encountered in the membranous urethra. However, most of the obstruction is occasioned by a congenital stenosis of the bladder neck in which some times an opening only as large as a pinpoint can be determined at autopsy. What the cause of this fibrosis is, is not definitely determined. It cannot be an inflammatory thing because it is frequently present at birth. There are many grades of this obstruction; sometimes there is simply a fibrous bar along the lower border of the sphincter which may be destroyed with the electric current, just as the fibrous bar in the aged man is done and the channel restored to normal. Obstruction about the sphincter may be of a spasmodic type, in which irritation from some other portion of the body near the genital canal occasions a constant spasm. This frequently comes from stimulation of foreign substances or parasites in the rectum and vagina, which will cause the sphincter of the bladder to close down so tightly that the bladder cannot be emptied.

In summing up, we would suggest that as a routine every child who has a persistent dysuria or frequency, blood or pus in the urine, constant bed-wetting and enuresis should be observed for at least a period of 2 to 3 weeks by the pediatrician to determine whether there is simply a transient change present or whether the patient does not improve. If this persists, the patient should then have a thorough examination to determine whether the bladder is emptying, what his bladder capacity is, whether there is any evidence of distention of his bladder as ascertained by percussion above the symphysis and if these are in the least marked, what his state of nutrition is. As soon as any real evidence of obstruction is seen, the patient should unquestionably have the advantage of an urological examination which can be carried out at the present time by small instruments of precision in which vision is as large and active as it is in the instruments used for adults. There is one great thing in children's favor, the recuperative power of the kidneys and of the bladder and ureteral structures in a child is remarkable, and in some cases where we thought the patient's kidneys were certainly too seriously damaged to permit any recovery, both have ultimately returned to practically normal function following relief of obstruction. It cannot be too greatly emphasized, however, how important it is to get these in the early days before the patient's malnutrition has brought about destruction of the kidneys and when they are so simply relieved, frequently by instrumentation only in the urethra, and almost always by nothing more serious than a simple suprapubic cystotomy.

DISCUSSION

J. Duffy Hancock: I am very glad to have the opportunity to present our distinguished guest from New York. Dr. Townsend, who is making an unannounced and non-professional visit to the city, was rather easily persuaded to attend the meeting tonight since he is a graduate of our local school, knows a good many members of our society and specializes in the type of work to be discussed. He is chief of the Urological Service at the Morrisania City Hospital in New York City, is Urological Consultant at other New York Hospitals, and is President of the New York County Medical Society. He is particularly interested in medical economics and is Chairman of the Committee on Medical Trends in the New York Society. He formerly held the position of my unofficial banker during the last three weeks of each month when I was a resident interne in New York. It is a real pleasure to introduce Dr. Terry Townsend of New York City.

Terry M. Townsend, New York: It is typical of your hospitality to invite a visitor to participate in your program and I would be ungrateful not to express my sincere thanks for the implied honor and graceful courtesy.

The carefully prepared essays which have been presented cover so thoroughly the subjects, that but little can be added. Perhaps I may accentuate or elaborate some tersely stated facts and observations which will more firmly place them in our minds.

Haematuria is a symptom of such treacherous pathologic changes that it becomes important not only to warn the sufferer of its dangerous portent but also to educate our profession to the necessity of determining the cause and origin of the bleeding. I have observed many instances of hematuria without urinary pain, frequency, or urgency, which were treated empirically by physicians without the slightest idea concerning its cause. The intermittency of the symptoms lulls both physician and patient into a sense of false security. More especially is this true when the bleeding ceases following oral administration of drugs. Both physician and patient assume that the drug has accomplished the relief rather than recognize that the very nature of the pathology makes hematuria but an intermittent symptom.

Although the majority of haematurias are amenable to surgical relief, we must ever bear in mind those of metabolic origin. Other instances of non-surgical haematurias which we occasionally encounter in the coastal cities and usually are imported from other countries are urinary infestation with the Schistosoma haematobium, causing Bilharziosis and the Filaria Sanguinis hominis, causing chyluria. Haematurias due to tertiary syphilis of the urologic tract, and infestations with actinomycosis and echinococcus are more rare, but nevertheless worthy of recollection in obscure cases.

Dr. Atherton's slides beautifully depict the causes of haematuria of surgical nature.

The outstanding therapeutic advances made in 1936 are the development of Protamine Insulin and Mandelic acid. All honor is due Clark, Helmholtz, Kelz, Osterberg, Crance and other pioneers who pointed out the bactericidal effect of acid urine and the effect of ketonuria in urologic infections. I agree fully with Dr. Townsend in his conclusions with reference to dosage, duration of administration, as well as its nauseous properties. The ideal vehicle is yet to be found.

I am quite convinced that mandelic acid preparations produce unfavorable results when given to patients suffering from vesical neoplasms. Pain, urgency, frequency, and haematuria have increased in my observations. Renal insufficiency is the outstanding contraindication to its administration. I feel quite certain that two patients in my service would have lived longer with their thin shells of renal cortex if the mandelates had been withheld.

Dr. Grant has presented one of the most interesting and important sections of urology, that of juvenile urology. If we can recognize and cure, or even ameliorate anomalous lesions in childhood, the vast pathology which comes on in later years can be avoided or minimized.

In the search for urologic pathology in juveniles, I call your attention to a method of diagnosis by descending urography as prescribed by Dr. Feder Senger of Brooklyn. When cystoscopy is impossible, or the intravenous injection of radio-opaque substances is infeasible, he administers a subcutaneous injection of the substance and obtains a Roentgen view of the urologic tract a few hours later.

I confess a dislike for juvenile urology, and congratulate Dr. Grant on his possession of such charming extra-professional traits of character which have made him so successful in this difficult section of our specialty.

Permit me to again thank you, Mr. President, for your invitation to participate in this discussion.

J. Andrew Bowen: The chief thing in a case of hematuria is, "Find the Cause." If you are sure, well and good; if not, then investigate until you do find the cause. Treatment then is usually simple.

On mandelic acid, our experiences are about as stated by Dr. Townsend. Fifty per cent of the cases do very well, a few fairly well, and a few others not at all. There are several reasons why mandelic acid is successful, perhaps shown best by an analysis of its chemical composition. It is closely related to salicylic acid, which is the basis for aspirin. Salicylic acid has been used for many years in a number of infectious conditions, particularly in arthritic disease, in which it has been the most effective. There is a difference between salicylic and mandelic acids, although both are built upon the benzine ring. They are excreted in the urinary tract which is the only way for them to get out of the body, and when they pile up in the body they are toxic. That accounts for the fact that patients decline on mandelic acid when they cannot eliminate it. Another thing, salicylic acid has two COOH groups, mandelic has only one of these groups and one OH radical, i. e. an acid and an alkaline radical. It is less acid than salicylic acid. This also accounts for the fact that if you wish to increase the acidity of the urine, the addition of another acid is necessary. Mandelic acid is much more efficacious than the salts. I have wondered, since I looked up the chemistry of this, why we don't use salicylic acid. It must be because of its irritating action upon the stomach which can be partly eliminated by giving it after meals or along with sodium bicarbonate.

The paper Dr. Grant gave, I think, was rather complete. But, admitting that the thing I am about to say is rare, and when found is rather hopeless, I still think that sarcoma of the prostate should be included in any classification of obstruction of the bladder neck in infants.

Harry S. Frazier: I have very much enjoyed this symposium and its discussions, and, from the standpoint of the general practitioner or internist, I too can report good results with mandelic acid which I must say I used with lack of confidence in the beginning. It is hard to believe that so simple a thing as mere production of a high degree of acidity should decrease the growth of bacteria in the urinary tract. It does seem to me, however, from a sane practical standpoint, that the probable etiology of colon bacillus infections has not been given all the consideration it should have been given. If we believe that the colon bacillus in the intestinal tract through some upset, diarrhea or lowering of general body resistance, invades the urinary tract then more attention ought to be given the intestinal tract. I think it a very wise plan to start off an acute case of pyelitis with a dose of castor oil and afterwards to carefully insure good elimination. Also persistent cases of chronic colon bacillus infection can be helped by a correction of the intestinal condition using again the castor oil principle contained in such drugs as, soricin, nariconal and the like. Also, there has been used for this purpose the acidophilus bacillus, along with appropriate diet and beta-lactose.

P. A. Turner: Speaking in this symposium I want to offer one observation and a testimonial. The observation is this: Dr. Atherton said that blood is always present in tuberculosis of the kidney. I wish to say that in all the tuberculous individuals that come under my consideration, tuberculous kidney is very rare. I do not know why, but it is different in other states. Here it is particularly rare. In advanced cases, very seldom do we find tuberculosis of the kidney.

The testimonial I wish to offer is this: I am the patient of whom Dr. Townsend spoke. After having a session with my doctors, I was in the hospital a considerable length of time, my kidney had dropped down a little, causing a kink of the ureter. Fever of 104°, I did not know much. When I began to feel normal, it was found that I had a lot of colon bacilli in my urine. Quite frequently, I had to get up at night, and I had to put on a belt—not a rapid process when you have to go to the bathroom. I visited my doctors frequently. I was put on pyridium. The organisms persisted. I still had pain on urinating. I felt sure the doctors were getting tired of seeing me in the office. Finally mandelic acid was suggested. I was thoroughly satisfied that pyridium was not doing any good. They started me on the syrup mandelate by Abbott. In about four days the urine was perfectly clear, and not a single bacillus could be found on culture. It was stopped after a pint had been taken. I started with a tablespoonful three times a day. Within a short time, it could be reduced since the pH kept around 5, so the dose was reduced to a couple of teaspoonfuls a day. After I had taken the pint, I went without it a while. A little over a week later, the urine became cloudy, so that another pint was necessary. Since that time I forget to take it regularly, but take a teaspoonful occasionally. Since that second pint, there has been no trouble.

I want to make this clear, that mandelic acid is the worst tasting medicine anyone would hope to try. It is nauseating. It isn't the effect of the medicine, it is the taste. But I finally devised a scheme: By taking a couple of teaspoonfuls in my mouth, then drinking water without breathing, a very small after effect occurred. Knowing its terrible taste, I tried to take it in Coca Cola but this is the best way I have found to take it. But Lord help any child! I want to ask Dr. Townsend if there is any way children can be induced to take this medicine.

P. K. Knoefel: I would like to discuss Dr. Townsend's paper by introducing the results of the class in pharmacology in studying urinary antiseptics. These experiments were fairly precisely controlled. All individuals took 8 gm. of ammonium chloride in the twenty hours before taking the drug; all were urged to take a ketogenic diet and to restrict the intake of fluids. With mandelic acid, 40 per cent showed bactericidal action, the pH was 5.2. Methenamine, 70% showed bactericidal action, the pH was 5.2 to 5.5. Equal doses of methenamine and mandelic acid, 1 gm. each were taken. The usual dose of mandelic acid is 2 to 4 gms. But larger doses of methenamine were used in the past and complications were seen with these larger doses. It may be that in an early enthusiasm, too much mandelic acid is used, for untoward reactions have occurred. I simply want to say that in these experiments, mandelic acid was less active than methenamine.

Lytle Atherton (in closing): I appreciate everything that has been said, particularly the remarks by Dr. Townsend in his stressing the importance of what is considered by the average general practitioner with reference to hematuria. Also he has mentioned filarial infections as observed in the tropics and semitropics which is well to consider even in this locality. Also I would like to mention one other condition which I have not covered in my paper and that is trichomas infections of the bladder which is frequently found in female patients secondary to vaginal infections with trichomas producing a cystitis and hematuria.

Study of Alternating Scoliosis — Pitkin and Pheasant found twenty-two cases of alternating scoliosis mentioned in the literature. The apparent rarity of this condition is due to the fact that only the more spectacular cases have been reported. They found sixty-eight cases of alternating scoliosis in their records of 506 examinations for low back disability. Six cases showed the spectacular type of active alternation. The pain of alternating scoliosis is the typical sacrarthrogenic telalgia that is caused by pathologic tensions in the extra-articular ligaments of the upper sacral joints. The scoliosis is caused by one or more fixed pathologic positions of one or more of the upper sacral joints. Alternation is due to a change in the fixed pathologic position of one or more of the upper sacral joints. Either sacro-iliac joint may become fixed in one of four pathologic positions (sacro-iliac slips), which the authors have classified as flexion, extension, increased angle and decreased angle slips.

POST OPERATIVE TREATMENT OF APPENDICITIS*

ELLIS ALLEN, JR., M. D.
Louisville.

In discussing Post Operative Treatment of Appendicitis I am not attempting to set myself up as an authority on the subject, I am only giving you my observations and opinions on an experiment which I have performed on a certain number of cases of a consecutive series of 186 cases, with the diagnosis of appendicitis, and comparing the results obtained in the use of various methods. In doing this I am obliged to include a few statistics which I hope will interest, rather than bore you and render more clear my points rather than confuse them.

In spite of the progress in other lines of endeavor we are obliged to admit that there is vast room for improvement in the management of the case of acute appendicitis. For a malady which is encountered so frequently, and the treatment for which is so relatively simple in the usual case the general mortality is astoundingly high. Although this country of ours prides itself on its progress, and has probably the largest number and the best equipped medical schools in the world, the mortality from appendicitis has been increasing steadily during the last three decades. The causes of this loss of life come at various stages in the course of the case. The first mistake is the failure of the patient to call his doctor until too late. Second, after calling family doctor, third, after calling surgeon. This last is the stage with which I want to deal.

This paper takes up the course and post operative treatment of 186 consecutive cases of appendicitis. The operations were done either by myself or by father, with whom I am associated. The operations are about equally divided between us as to number, but with most of the complicated or difficult cases being operated upon by my father. In general two types of incision were used; each with modifications. By preference the gridiron incision, and by necessity the rectus incision. In all the cases in which the diagnosis was so obvious that no exploration was desired, and in which there was no evidence of complications, and in which the appendix was not deemed to be retrocecal by the history and physical findings, the gridiron incision was used. These cases totalled 96 cases. Of these it was found necessary to extend the incision into the rectus sheath and enlarge the incision further along this line in three cases, two of which were unruptured and one of which was ruptured with abscess formation. This case was drained, as were five other ruptured cases which were handled through the routine incision. The appendix was removed by a scalpel, the stump tied and cauterized with phenol neutralized by alcohol and inverted by a catgut intestinal suture purse string. All layers of the wall were closed with No. 1 cg. continuous suture either single or double as the case indicated, except the skin which was closed with No. 0 plain catgut. In the remaining 90 cases a rectus incision was used, either because the pelvis, gall bladder or stomach were suspected of pathology, or because it was felt that due to the suspected position or condition of the appendix a larger incision would facilitate or render more safe the operative procedure. We used three tpyes of rectus incision. By choice retracting the body of the muscle medially and incising the peritoneum under it, secondly retracting the muscle laterally in much the same manner and thirdly by splitting the fibers of the muscle and going directly through the belly of the muscle. This last method giving the greatest latitude of operation. Forty eight clean cases were done by rectus incisions and 40 cases in which we thought it necessary to drain. In this series of cases there were two deaths for a total mortality of 1.06 per cent. Both these cases were children who had been sick a week and purged repeatedly before a doctor was called. They were drained under local anesthesia without looking for the appendix, but died within eight hours after the operation. The rectus incision cases were closed with continuous catgut suture with the exception of the skin, and in most cases dermal stay sutures were used and removed from five to seven days later.

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*Read before the Fifth Councilor District Meeting, Carrollton.

After the patient is returned to his room, regardless of the type of the operation, he is given from 1000 to 3000 cc. of glucose and saline if he has vomited any considerable amount either before or after the operation or if he has had a spinal anesthetic. We use spinal anesthesia in about 60 per cent of our appendectomies, because of the better relaxation afforded and because of a lessened tendency to vomit.

The average patient is given water by mouth 8 to 12 hours after the operation, liquid diet the second day and a stimulating enema and a soft diet the third day, with the regular diet being resumed the fifth day. If the appendix was ruptured nothing is given by mouth for 24 to 36 hours and glucose is given again the day after the operation. If the patient has general peritonitis nothing is given by mouth for three or four days; the required fluids being supplied by 2500 to 3500 cc. of glucose daily as a hypodermoclysis and intravenously. If the patient has been vomiting this glucose is given in saline, otherwise in distilled water. When the patient goes home we allow him to resume his normal habits of eating.

To control the bowels of our patients we give them the enema on the third day as I have mentioned above, unless the case was ruptured, when we delay the enema two or more days depending upon the particular case. We use enemas daily to evacuate the bowels and between times to relieve gas pains. As soon as the gas pains have stopped troubling the sick one we substitute a mild laxative for the enemas. On dismissal from the hospital this regime is continued until he can take the necessary exercise to control his elimination.

All this is generally accepted, I think, and need only to have been mentioned in review, but the matter of the amount of physical activity which is safe when the patient returns home is not so stereotyped. Generally speaking all appendectomy cases have been up two days before going home and have walked up and down the corridor several times. These are directed to go to bed when they return home and to start getting up a gradually increasing length of time each day, until at the end of a week they are up all the time except for a short rest period twice a day. They can return to sedentary work two weeks after returning home and to hard work or athletics about two weeks after that without fear of untoward effects. The exception to this is really what I am most interested in today. In clean cases with a gridiron incision we allow the patient to return to office work two weeks after the operation and to strenuous work a week later, thus saving from one to three weeks which would otherwise be lost.

About eighteen months ago, a dormant question arose in my mind as to the necessity of keeping a patient in bed 6, 7, or 8 days after an appendectomy, when each additional day in bed weakened him more and added to the length of his convalescence. The reasons for staying in bed, summed up to these: (1) give the wound time to heal; so a rupture of the wound will not occur; (2) fear of pain to the patient. If these objections can be met satisfactorily, the advantages of getting up earlier are obvious. (1) shorter hospital stay and less lost time from work, (2) better condition on leaving the hospital; (3) less chance of serious lung complications; (4) less danger of embolism; (5) less need of catherterization; (6) less need of enemas; (7) less gas pains; (8) improved psychology of convalescence.

Although there are more advantages to getting up than there are disadvantages the latter are of much more import, because of the severity of the consequences in the event of their occurrence. Since this is true the advantages to be gained have not seemed to justify the chance of the occurrence of the others. So very few have had the temerity to experiment. By this statement I do not claim any originality of research, because I know of several surgeons who make a practice of getting their patients out of bed earlier than is generally accepted, but until recently I have always regarded these with a little skepticism. I now believe that definite advantages can be gained by early rising. As you all probably know by personal experience, a normal well adult becomes noticeably weaker the longer he stays at absolute rest; if in a clean appendectomy the patient is considered well otherwise, we may hold the same to be true. That is the longer he stays in bed, the longer it will take him to regain his strength. We quite frequently come across cases in which the time lost from work or school is of considerable importance to the patient; also there are some cases in which complications would be avoided or ameliorated by early sitting up of the patient. One of the first of the cases we tried on this regime had a severe bronchitis; the coughing from which caused him considerable pain in his incision when he was flat on his back. He had a gridiron incision so we put him up in a chair the morning after his operation to see if it would help his cough. Much to our mutual pleasure his cough was much improved, in fact so much so that we had a hard time getting him to return to bed at all, he wanted to sit up all day and all night. Another condition in which we have found improvement, is in those cases which have difficulty in voiding after an operation, these we let stand up beside the bed or sit up on the bedpan to facilitate micturation and thus avoid the danger of cystitis carried by repeated catherterization.

We have confined our experiments to apparently clean appendectomies by the gridiron incision, preferably in young adults. All 92 patients with the gridiron incision, have been encouraged to get out of bed the day following the operation if their temperature was under 99, but in many we could not allay their fears, so we did not insist upon this unless we had some definite reason for their doing so. Eleven cases got up the day after the operation, 21 the second, 23 the third and the remainder at various later dates. Only one who got up the first day did not want to get up the following day, and she got up again the third day and thereafter. Two patients, one a Louisville surgeon whom many of you know, would not get up until the 12th day. Including these, the average time of arising was 3.6 days. These patients usually returned home 2 or 3 days after getting up and resumed normal activities two or two and one half weeks after the operation. One patient who got up the day following operation had a wound infection which developed on the 5th day and was kept in for three more days because of this. He was ambulatory while this was draining, with no discomfort. Practically without exception these patients had less pain when up in a chair than when in bed, probably because the flexed position of sitting relaxed the abdominal musculature. These patients were troubled practically none by gas pains, and resumed normal bowel habits on the average of two or three days earlier than the cases done by the rectus incision which we kept in bed 4, 5, or more days as the conditions indicated, with an average bed confinement of 8.3 days. It is useless to consider the ruptured cases which stayed in bed much longer with an average of 14 days in bed.

The shortened hospital stay is just as convincing. The gridiron cases went home on an average of seven days after operation, the rectus cases eleven days and the drained cases 18 days.

One child with a gridiron incision even went home the second day after an operation with no unfavorable consequences. I offer this method of treatment as an improvement over the former method of handling clean cases of appendicitis where the length of time loss from work is a consideration.

BOOK REVIEW

PHYSICAL DIAGNOSIS: By Ralph H. Major, M. D., Professor of Medicine in the University of Kansas. 457 pages with 427 illustrations. Philadelphia and London: W. B. Saunders Company, 1937. Cloth, $5.00 net.

This book is a summary of some of the things the author has learned during the fifteen years experience in teaching physical diagnosis to medical students. He has emphasized as Skoda did a century ago, that physical signs are produced by physical causes and that these underlying physical causes must be understood before the physical signs can be appreciated.

Roentgenograms, electrocardiograms or pulse tracing are employed where they are essential to make certain explanations clearer.

The author says that this book is intended as a textbook of physical diagnosis, not as a year book.

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NEXT MEETING RICHMOND, SEPTEMBER 13-16

COUNTY SOCIETY REPORTS

Muldraugh Hill: The officers of the Muldraugh Hill Medical Society have planned for their next meeting, which meets on August 12th, at Elizabethtown,—a program that they consider quite different and which they trust will be highly interesting.

There has been a definite effort to enlist the co-operation of the rural doctors in building a progam that will help more the men who live out in the country, and it has been a great joy to all concerned to note the readiness with which the doctors, both city and country men, have accepted this idea.

For the next meeting the physicians living in the vicinity of Glasgow, Campbellsville and Elizabethtown, will each have charge of the program for one hour. No one has any information as to what they will present during that hour but the group who has arranged the matter, but it will be in the hands of leading men in each town and most certainly will be good.

The group from Elizabethtown will have charge from 10 to 11, and will be presided over by one of their number. The group from Campbellsville will be on from 11 to 12, also presided over by a physician from their town.

From noon until 12:30, the Society will have, more or less, a social period, at which time we hope to recognize and hear a number of noteworthy men. Dr. Irvin Abell, President-Elect of the A. M. A. has been invited, and also Dr. Pusey, who is a Past President of the A M. A. Due to the fact that August meetings are always well attended, and many doctors from even out of the State are visiting here, we hope to have several of these men present. All the physicians of the whole state are invited and we expect a great crowd for this meeting

After the usual splendid country dinner at the hotel together, the Society will hold a brief business session. New officers will be elected.

The hour from 2 to 3 will be conducted by the physicians from Glasgow, with one of their men presiding, and we feel sure this will be a fitting climax to a rich program. The meeting will adjourn about 3 p. m.

This is one of the oldest of the group societies in Kentucky and has during its long period of existence many distinguished physicians not only one its program but also in its membership.

The reader is invited to take a day's rest, and to join us in a program of real helpfulness and a fellowship that cannot be excelled in all the Southland. Come and bring your friends.

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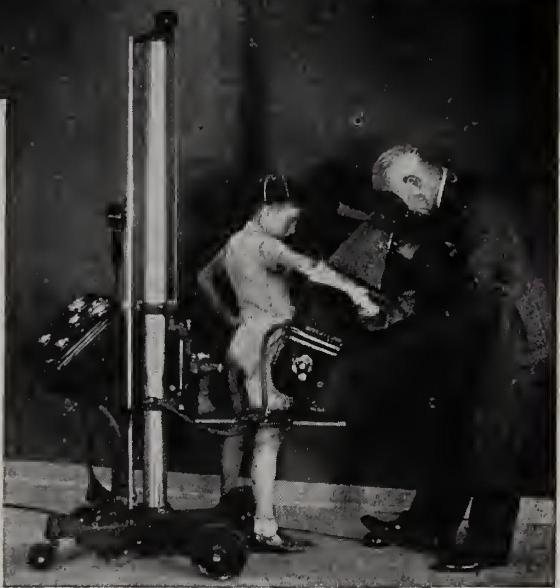

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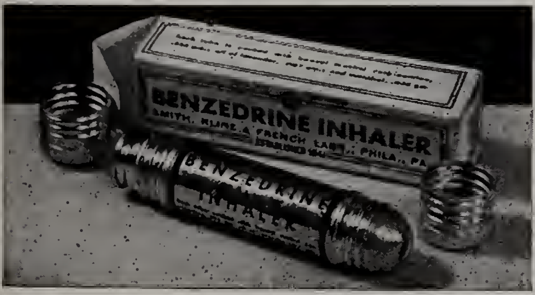

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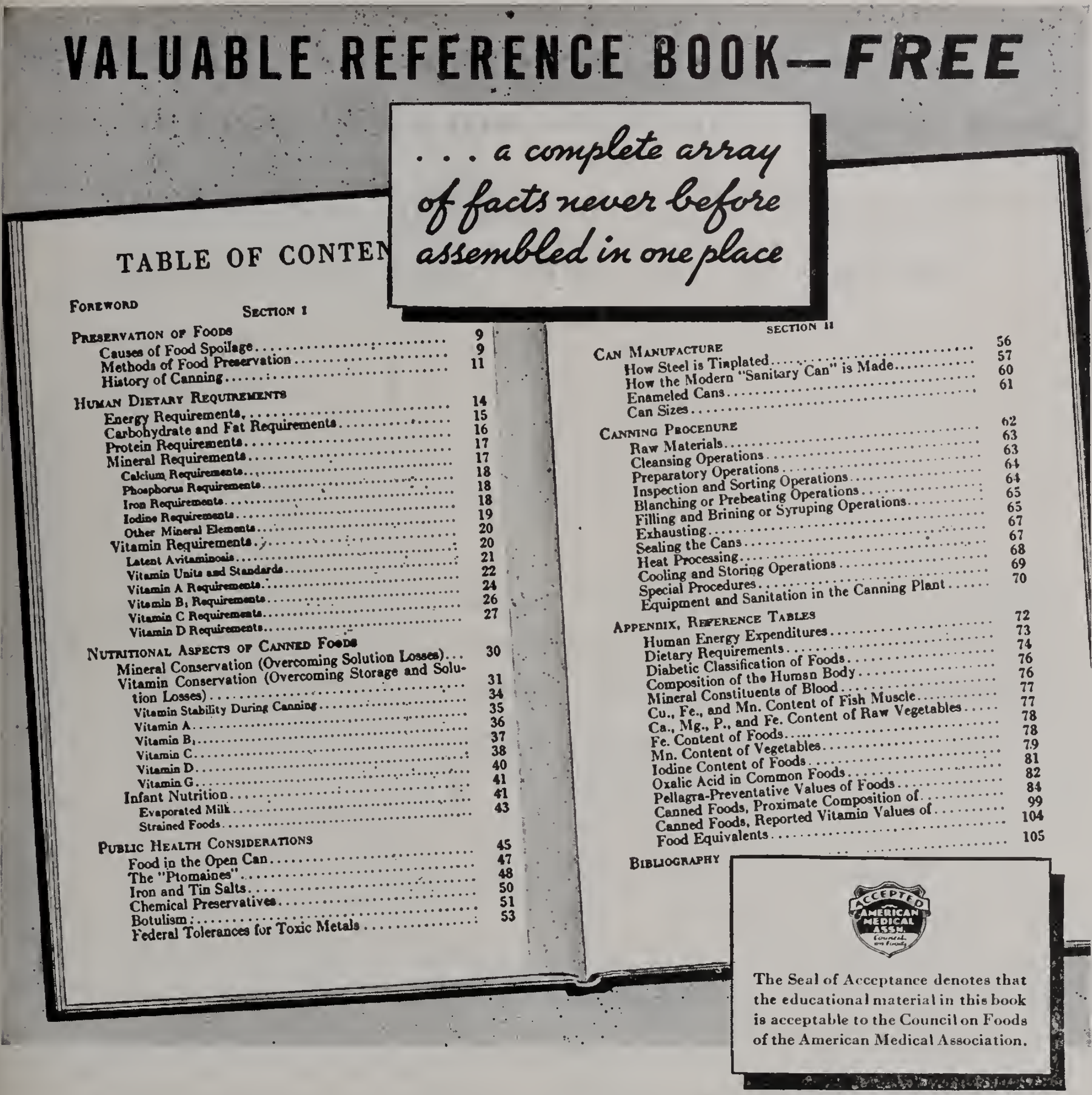
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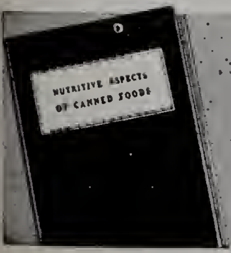

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COUNTY	SECRETARY	RESIDENCE	DATE
Adair	N. A. Mercer	Columbia	September 1
Allen	A. O. Miller	Petroleum	September 22
Anderson	J. B. Lyen	Lawrenceburg	September 6
Ballard	F. H. Russell	Wickliffe	September 14
Barren	Paul S. York	Glasgow	September 15
Bath	H. S. Gilmore	Owingsville	September 13
Bell	R. F. Porter	Middlesboro	September 10
Boone	R. E. Ryle	Walton	September 15
Bourbon	S. M. Bickman	Paris	September 16
Boyd	C. B. Daniels	Ashland	September 7
Boyle	Geo. M. McClure	Danville	Sptember 21
Bracken-Pendleton	W. A. McKenney	Falmouth	September 23
Breathitt	Frank K. Sewell	Jackson	September 21
Breckenridge	J. E. Kincheloe	Hardinsburg	September 9
Bullitt	S. H. Ridgeway	Shepherdsville	September
Butler	G. E. Embry	Morgantown	September 1
Caldwell	W. L. Cash	Princeton	September 7
Calloway	Hugh L. Houston	Murray	September 2
Campbell-Kenton	C. A. Morris	Covington	September 2-16
Carlisle	J. F. Dunn	Arlington	September 7
Carroll	J. M. Ryan	Carrollton	September
Carter	W. S. Hawn	Grayson	September 14
Casey	William J. Sweeney	Liberty	September 23
Christian	M. A. Gilmore	Hopkinsville	Septmber 21
Clark	R. E. Strode	Winchester	September 17
Clay	J. L. Anderson	Manchester	September
Clinton	S. F. Stephenson	Albany	September 18
Crittenden	C. G. Moreland	Marion	September 13
Cumberland	W. F. Owsley	Burkesville	September 1
Daviess	Alice W. Davis	Owensboro	September 14-28
Elliott	R. Eugene Wehr	Sandy Hook	September
Estill	Tracy Wallace	Irvine	September 8
Fayette	John Harvey	Lexington	September 14
Fleming		Flemingsburg	September 8
Floyd	J. G. Archer	Prestonsburg	September 29
Franklin	Grace R. Snyder	Frankfort	September 2
Fulton		Fulton	September 8
Gallatin	J. M. Stallard	Sparta	September 16
Garrard	J. E. Edwards	Lancaster	September 16
Grant	P. E. Harper	Dry Ridge	September 15
Graves	H. H. Hunt	Mayfield	September 7
Grayson			
Green	S. J. Simmons	Greensburg	September 6
Greenup	D. C. Parmenter	Greenup	September 10
Hancock	F. M. Griffin	Hawesville	September 6
Hardin	D. E. McClure	Elizabethtown	September 9
Harlan	C. M. Blanton	Harlan	Septemebr 18
Harrison	W. B. Moore	Cynthiana	September 6
Hart	S. F. Richardson	Munfordville	September 7
Henderson	Walter O'Nan	Henderson	September 13-27
Henry	Owen Carroll	New Castle	September 27
Hickman		Clinton	September 2
Hopkins	David L. Salmon	Madisonville	September 2
Jackson			September 4
Jefferson	Arthur T. Hurst	Louisville	September 6-20
Jessamine	J. A. Van Arsdall	Nicholasville	September 23
Johnson	P. B. Hall	Paintsville	September 11
Knott			September 25
Knox	T. B. Davis	Barbourville	September 24
Larue	D. W. Gaddie	Hodgenville	September
Laurel	Oscar D. Brock	London	September 8
Lawrence	L. S. Hayes	Louisa	September 20
Lee	W. D. McCollum	Beattyville	September 11
Leslie	John H. Kooser, Act. Sec'y	Hyden	September
Letcher	R. Dow Collins	Whitesburg	September 28
Lewis			September 20
Lincoln	Lewis J. Jones	Hustonville	September 17
Livingston	William C. Davis	Smithland	September
Logan	Walter Bryne, Jr.	Russellville	September 1
Lyon	H. H. Woodson	Eddyville	September 7
McCracken	Leon Higdon	Paducah	September 22
McCreary	R. M. Smith	Stearns	September 6
McLean	L. Hubert Mealey	Livermore	September 9
Madison	H. G. Wells	Richmond	September 16

COUNTY	SECRETARY	RESIDENCE	DATE
Marion	W. A. Risteen	Lebanon	September
Marshall	S. L. Henson	Benton	September 15
Mason	O. M. Goodloe	Maysville	September 8
Meade	A. A. Baxter	Brandenburg	September 23
Menifee	E. T. Riley	Frenchburg	September
Mercer	J. Tom Price	Harrodsburg	September 14
Metcalfe	E. S. Dunham	Edmonton	September
Monroe	George E. Bushong	Tompkinsville	September
Montgomery	D. H. Bush	Mount Sterling	September 14
Morgan			September
Muhlenberg	G. L. Simpson	Greenville	September 14
Nelson	R. H. Greenwell	Bardstown	September 15
Nicholas	T. P. Scott	Carlisle	September 20
Ohio	Oscar Allen	McHenry	September 1
Oldham	S. J. Smock	LaGrange	September 7
Owen	K. S. McBee	Owenton	September 2
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Perry	D. D. Turner	Hazard	September 13
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Rockcastle	Lee Chestnut	Mount Vernon	September
Rowan	A. W. Adkins	Morehead	September 13
Russell	J. B. Scholl	Jabez	September 13
Scott		Georgetown	September 2
Shelby	A. D. Doak	Shelbyville	September 16
Simpson	N. C. Witt	Franklin	September 14
Spencer			
Taylor	M. M. Hall	Campbellsville	September 9
Todd	B. E. Boone, Jr.	Elkton	September 1
Trigg	H. L. Wallace	Cadiz	September 29
Trimble	J. J. Gerkins	Bedford	September
Union	D. C. Donan	Morganfield	September 29
Warren	Hal Neel	Bowling Green	September 8
Washington	J. H. Hopper	Willisburg	September 15
Wayne			September
Webster	C. M. Smith	Dixon	September 24
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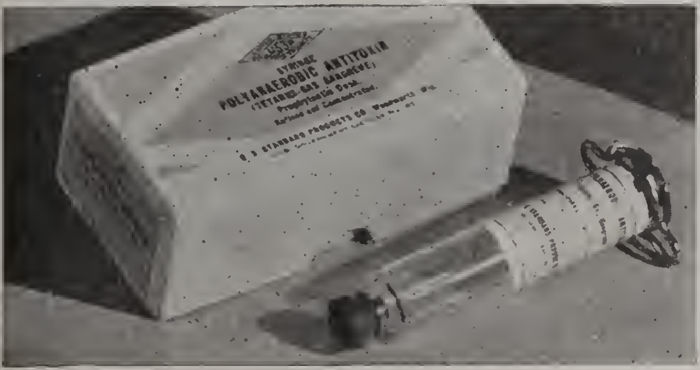

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[1] Cole, Harold N., *et al.; J. A. M. A.* 108:22, 1937.

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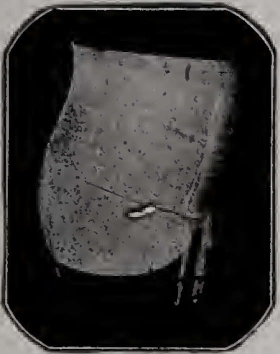

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PRESIDENT KENTUCKY STATE MEDICAL ASSOCIATION, 1937

SUPPLEMENT TO KENTUCKY MEDICAL JOURNAL, SEPTEMBER, 1937

KENTUCKY MEDICAL JOURNAL

BEING THE JOURNAL OF THE KENTUCKY STATE MEDICAL ASSOCIATION

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VOL. 35, No. 9 BOWLING GREEN, KY. SEPTEMBER, 1937

WHERE KENTUCKY PHYSICIANS WILL MEET

The Eastern Kentucky State Teachers College is located in Richmond, Madison County. It is 120 miles south of Cincinnati, Ohio, on the Cincinnati-Knoxville line of the L. & N. Railroad; 11 miles southwest of historic Boonesboro, on U. S. Highway No. 227; and 25 miles southeast of Lexington, the heart of the bluegrass region, on the Dixie Highway (U. S. No. 25). Because of this location the college can be conveniently reached from all directions. Eastern is surrounded by points of historic interest, and the location, where the mountains meet the bluegrass, provides a wealth of natural beauty. One can easily drive to the mountains for an afternoon sight-seeing trip; or to the bluegrass to see the home of "Man of War" or any one of the other famous race horse farms near Lexington; or, if you prefer, to the Kentucky River for a glimpse of the beautiful rock-ribbed cliffs and gorges.

However, one need not leave the campus in order to enjoy beautiful surroundings. The campus itself is one of the most beautiful in the South. It has 70 acres of splendid bluegrass turf, thickly set with beautiful trees, shrubs and flowers. There are twelve buildings on the campus: The President's Home, Coates Administration Building, Roark Building, Cammack Building, Memorial Hall, University Building, Crabbe Library, Industrial Arts Building, Burnam Hall, Sullivan Hall, Weaver Health Building, and Hanger Stadium.

Eastern came into existence on March 21, 1906, when Governor Beckham signed the bill which provided for the establishment of two state normal schools. The campus of old Central University was donated to the State by the City of Richmond as the site for the new institution. The doors of the newly created normal school were opened to students on January 15, 1907, and the first class of teachers was graduated in June of that same year. The institution continued to serve the State in the capacity of a normal school until 1922, when the General Assembly made it a four-year teachers' college. During the 31 years that Eastern has been in the service of the Commonwealth, more than 35,000 different students have taken advantage of the opportunities which the institution has offered.

ROARK SCIENCE BUILDING

Most of the students who have attended Eastern Teachers College have gone out into the State as trained teachers, but since the college offers other types of work, a good many of them have entered other fields of service. These other fields of instruction include four-year degrees in commerce, home economics, and music; a liberal arts degree in any of the fields of instruction offered by the college; and premedical and prelaw courses. Eastern is especially well recognized for its premedical course.

Eastern is truly the "people's college." All students who attend the institution are given an opportunity to do high grade college work for a very reasonable monetary investment. The college administration keeps the cost of living at a very low figure, in order that students who have very meagre financial resources may have the same opportunities as those who are more fortunate.

SPACIOUS LOBBY IN BURNAM HALL

SULLIVAN HALL

LEAGUE OF CHRISTIAN PHYSICIANS

On the Sunday preceding each annual meeting of the Kentucky State Medical Association for several years past, the League of Christian Physicians have conducted the evening services at a centrally located church, all denominations uniting to make the meeting a community service. Many distinguished physicians have spoken to congregations composed of physicians and the laity. The object of the meetings is to bring the people into closer touch with the ideals of the profession and to stimulate physicians to realize their leadership to a better and healthier life.

Dr. Howard Kelly of Baltimore, America's great Christian physician and surgeon, was the League's first speaker, and every seat in the large, spacious auditorium of the Warren Memorial Church, Louisville, was filled. This year the meeting will be held in the Hiram Brock Auditorium Administration Building at Richmond, and again the Association is fortunate in securing Dr. E. L. Bishop, Knoxville, Tennessee, for their speaker. Dr. Bishop, formerly State Health Officer of Tennessee, an Ex-President of the American Public Health Association, and now Director of Health of the Tennessee Valley Authority, is one of the American leaders in preventive medicine.

There has never been a time in the history of medicine when the people, as well as physicians, were in greater need of spiritual guidance to lead them through the maize of problems that confront our social organization. The evils of quackery, the malignancy of poverty, with the rapid increase in population of the unfit and the poor, and their demands for governmental care, are only a few of the problems the physician must solve. Dr. Roger W. Babson, whose indices are accepted as standard for the nation, in an address delivered at Olivet College, gave this timely warning:

"Business is normal now in America and this upward, industrial surge will continue for two years at least." But, he added: "Lacking spiritual guidance and a fidelity to the tenets of true, and old-fashioned religion, the nation is headed towards industrial and commercial stagnation."

It will be remembered that Dr. Babson forecasted the 1929 stock market crash.

The League of Christian Physicians seeks to help furnish the spiritual leadership so necessary in this changing world.

The subject of Dr. Bishop's address will be "Traditions, Responsibilities and Opportunities of the Medical Profession."

GUEST SPEAKER FOR LEAGUE OF CHRISTIAN PHYSICIANS

Eugene Lindsay Bishop, M. D.

The League of Christian Physicians has secured for their guest speaker Dr. E. L. Bishop, Knoxville, Tennessee, who is at present Director of Health of the Tennessee Valley Authority.

Dr. Bishop was graduated in Medicine Vanderbilt University 1914. Certificate of Public Health, Johns Hopkins School of Hygiene and Public Health 1923. Field Director, State Board of Health, Tennessee 1916-1918; Director Rural Sanitation, Tennessee State Health Department 1918-1922; Assistant Commissioner of Public Health, Tennessee, 1923-24; Commissioner 1924-34; Lecturer, Vanderbilt University 1923-24; Assistant Professor of Preventive Medicine, Vanderbilt University 1924—; Director of Health, Tennessee Valley Authority, January 1935—.

Honorary life member State and Provincial Health Authorities of North America; member National Malaria Committee (former chairman); Fellow and life member American Public Health Association (now serving as chairman of the Committee on Administrative Practice), has served as—president, chairman of the executive board, secretary and chairman of the health officers' section, chairman of the subcommittee on rural health work, and president of the Southern Branch; Fellow A. M. A., and at one time served as secretary and later as chairman of the section on preventive and industrial medicine; Member Southern Medical Association, Tennessee State Medical Association, and Nashville Academy of Medicine: was at one time a member of the Board of Scientific Directors of the Rockefeller Foundation, and has served as Chairman of the Committee on the Training of Professional Personnel for the State and Provincial Health Authorities and as Chairman of the Committee on Federal Relations for the State and Territorial Health Authorities: is now serving as Executive Secretary of the Interdepartmental Coordinating Committee on Health and Welfare of the U. S. Treasury Department, as a member of the National

Advisory Health Council to the Surgeon General of the United States Public Health Service, and as a member of the Advisory Committee of the Committee on Research in Medical Economics.

MEET OUR VICE-PRESIDENTS

Harland Vernon Usher, M. D.

Harland Vernon Usher, M. D. Sedalia, was born in Mayfield, Kentucky, October 13th, 1880. His pre-medical education was received at the Farmington Institute. He was graduated from the Medical Department of the University of Louisville, April 28, 1905.

On numerous occasions since that time, he has taken post graduate courses in Cleveland, Chicago, and Louisville. He has been very successful not only as a general practitioner but in the business world as well.

Branham B. Baughman, M. D., Frankfort,

Branham B. Baughman, M. D., Frankfort, was born in Danville, Kentucky. In 1925 he received his A. B. degree from Center College and was graduated from the Medical Department of the University of Louisville in 1929. He was affiliated with the Alpha Omega Alpha, the Phi Rho Sigma fraternity. His internship was served at the U. S. Naval Hospital, Brooklyn, New York, 1929 to 1930; was resident in Surgery, University Hospital, Ann Harbor, Michigan, 1930 to 1931; resident in Surgery Lenox Hill Hospital, New York City, 1931 to 1932. Dr. Baughman has been actively engaged in surgery in Frankfort, since 1933.

James H. Pritchett, M. D.

James H. Pritchett, Louisville, has the following affiliations:

Clinical Professor, Pediatrics, School of Medicine, University of Louisville; member American Medical Association, Southern Medical, Staff member, Children's Hospital, City Hospital, Kentucky Baptist, Kasair, Norton's, St. Joseph and Sts. Mary & Elizabeth Hospitals. Member American Editors Association (Medical); Orator of Medicine, Kentucky State Medical Association 1935; Chairman Program Committee, 1934; Member of Committee of Commissioners of Charitable Buildings of Louisville; Major, Reserve Officers Medical Corps, U. S. Army. Member of Phi Chi Fraternity.

HIRAM BROCK AUDITORIUM

ORATOR IN SURGERY

James A. Ryan, M. D.

James A. Ryan, M. D., Covington, was born in Moran, Kansas, December 18, 1886. He received his early education in the public schools at Maysville, Kentucky. In 1909 he received his medical diploma from the Miami Medical College, Cincinnati. In 1911 he completed his internship at St. Elizabeth's Hospital, Covington, and 1917 became a member of the U. S. Base Hospital No. 40, the Barrow Unit. In 1922 he took a post-graduate course at the University of Vienna, and since 1912 has been engaged in the practice of surgery at the St. Elizabeth's Hospital, Covington.

ORATOR IN MEDICINE

Asa White Nickell, M. D.

Asa White Nickell, Louisville, was graduated from the Kentucky School of Medicine in 1896. As a student, he distinguished himself, receiving the gold medals in both anatomy and obstetrics. After pursuing postgraduate work in Chicago, the New York Polyclinic and Johns Hopkins Hospital, Baltimore, he served as Associate Professor of Anatomy and Gynecology at his Alma Mater.

Dr. Nickell is a member of the Jefferson County Medical Society, the Kentucky State Medical Association, the Southern Medical Association, the American Congress of Internal Medicine, an associate member of the College of Physicians and a fellow of the American Medical Association. For several years past he has served in the House of Delegates of the Kentucky State Medical Association as a representative of the Jefferson County Medical Society. At present he is a member of the staff of SS. Mary and Elizabeth Hospital and recently completed service on the staff of the Louisville City Hospital.

Dr. Nickell is a member of the Rotary Club, the Pendennis Club and the Audubon Club, a Shriner and an active member of the Edenside Christian Church, serving as Chairman of its Official Board and President of its Board of Trustees.

OUR DISTINGUISHED GUEST

Henry W. Cave, A. B., M. D.

Born in Paducah, Kentucky, July 30, 1887. Graduated from the Paducah High School in 1905; graduated A. B. Degree, Centre College 1909; received M. D. Degree Johns Hopkins Medical School and Hospital 1914-1915. Two and one-half year internship in surgery in The Roosevelt Hospital, New York, New York. Served in the Medical Corp, U. S. Army, A. E. F., in France eighteen months during the World War. Honorary discharge with the Rank of Captain. At present Attending Surgeon to The Roosevelt Hospital, New York. Associate in Surgery, Medical Department of Columbia University. Fellow of the American College of Surgeons; Member of the Southern Surgical Association; Member of the American Surgical Association; Member of the Clinical Research Society; Member of the Clinical Society of Surgery. Consultant Surgeon of The Lawrence Hospital, Bronxville, New York; Consultant Surgeon at The Southampton Hospital, Southampton, New York; Consultant Surgeon of the Arnold Knapp Memorial Hospital, New York.

THE TUBERCULOSIS MEETING AT RICHMOND, VIRGINIA

Altogether worthy of note is the joint meeting of the Southern Tuberculosis Conference and the Southern Sanatorium Association, which will be held this year in Richmond, Virginia, beginning September 29th and continuing through October 1st. Practically all the Southern States will be represented at this gathering, which will be devoted to an intensive study and discussion of tuberculosis problems, in all their phases, as they relate particularly to the South.

Noted speakers on the program of the Medical Section include such outstanding authorities on tuberculosis as Richard H. Overholt, M. D., Lahey Clinic, Boston; Louis Hamman, M. D., Associate Professor of Medicine, Johns Hopkins School of Medicine, Baltimore; J. A. Myers, M. D., Professor of Preventive Medicine, University of Minnesota, Minneapolis, and President-Elect of the National Tuberculosis Association; Emile Naef, M. D., Tulane School of Medicine, New Orleans; Leroy Gardner, M. D., Associate in Pathology, Saranac Lake, New York; David I. Smith, M. D., Professor of Bacteriology and Associate Professor of Medicine, Duke Medical School, Durham, North Carolina; and Frank S. Johns, M. D., Richmond, Virginia.

Following his address at the public session, Wednesday evening, September 29th, Dr. Overholt will exhibit motion pictures in color, showing operations in thoracoplasty, lobectomy and pneumonectomy. The educational value of these pictures to those interested in chest surgery could not well be overestimated.

The opening session of the Medical Section will be featured by an X-ray clinic, conducted by Paul A. Turner, M. D., Superintendent and Medical Director of the State Tuberculosis Sanatorium, Louisville, Kentucky. All physicians are invited to attend this clinic and to bring any unusual chest films which they may have. It is desired to make this consultative feature of the clinic of the greatest possible benefit to participants.

INTERNATIONAL ASSEMBLY AT ST. LOUIS

The International Assembly of the Inter-State Postgraduate Medical Association of North America, under the presidency of Dr. John F. Erdmann of New York, will be held in the beautiful new public auditorium of St. Louis, Missouri, October 18. 19, 20, 21 and 22, with pre-assembly clinics on Saturday, October 16 and post-assembly clinics, Saturday, October 23 in the hospitals of St. Louis.

The aim of the program committee, with Dr. George Crile as chairman, is to provide for the medical profession of North America an intensive postgraduate course covering the various branches of medical science. The program has been carefully arranged to meet the demands of the general practitioner, as well as the specialist. Extreme care has been given in the selection of the contributors and the subjects of their contributions.

The St. Louis Medical Society will be host to the Assembly and has arranged an excellent list of committees who will function throughout the Assembly.

A tentative list of the distinguished teachers and clinicians who will take part on the program may be found on page xiii of the advertising section of this Journal.

A most hearty invitation is extended to all members of the profession who are in good standing in their State or Provincial Societies to be present. A registration fee of $5.00 will admit each member to all the scientific and clinical sessions.

For further information, write Dr. W. B. Peck, Managing Director, Freeport, Illinois.

THE CONTROL OF SYPHILIS

At the recent annual meeting of the American Medical Association the Surgeon General, Doctor Thomas Parran, read an address on the above subject which we are reproducing from the Journal of the American Medical Association of July 17th:

"I look upon the subject of syphilis as the great question of the day. It was formerly a question of treatment . . . but that day has passed. It is now a question of prevention, of eradication, of the protection of the well against the contamination of the sick. In other words, it is no longer a question for the therapeutist but one for the sanitarian, the philanthropist, the legislator, the statesman. It is one of public health and as such we are bound to meet it. The time has come when we can no longer shut our eyes to its evil and we must deal with it precisely as we deal with other evils that affect the health of the people. . . . . It is our duty to enlighten the public upon all questions of public health. . . .

"Now, what I propose in regard to syphilis is simply to give to the existing boards of health . . . the same power over syphilis that they now possess over cholera, smallpox and yellow fever. They now have the power of ferreting out these diseases and they should have the same power of searching out the above of syphilis and of sending its victims to hospitals for treatment. For stamping out the disease in towns and cities their boards of health must have plenary powers of absolute character over syphilis; not more so, however, than they now possess over smallpox.

"Thus I say that I would simply include syphilis in the great family of contagious or communicable diseases and make it subject to the same laws and regulations that we already possess for their management. . . .

"Shall it be said that we, the representatives of the medical profession of a great nation, . . . will longer let the people remain in ignorance of the dangers that surround them? No, my friends, we must boldly proclaim the truth and scatter it broadcast over the length and breadth of the land. We must call to our aid the press, the pulpit, yea, the women of the country . . . we must . . . call upon our state and county medical societies to do our bidding and to cooperate with us. We must keep the subject not only before the profession but we must keep it before the people. . . ."

There must be many in this audience who think this is too unorthodox, too radical a doctrine that these measures would violate the traditional patient-physician relationship. To them let me say that these are not my own words. They are quoted directly from the presidential address of Dr. J. Marion Sims before this association in 1876, sixty-one years ago.

Forty-one years were to pass before the profession and our governmental agencies heeded the eloquent plea of Dr. Sims. Then it was an abortive wartime effort, since we apparently thought that the spirochete was demobilized with the army. Now sixty years after Marion Sims we have joined again in a campaign against syphilis. The disease is still our leading public health problem. We know the cause of syphilis. We know how it spreads. We know how the individual can avoid the risk of infection. With the darkfield we can diagnose the disease promptly as soon as it is infectious. In the serodiagnostic tests we have an accurate method of recognizing the disease in all except the first few weeks and in its later less active stages. Of great importance in preventing spread we have the arsphenamines, which will speedily sterilize open lesions. When used in conjunction with compounds of bismuth or mercury, most cases can be arrested or cured.

More important than these scientific weapons is another more recent one: an aroused public sentiment.

What is the problem of syphilis in the United States?

Each year more than 500,000 new cases occur in which medical care is sought.

When syphilis is looked for at least one hidden case is found for each one previously recognized.

According to the best estimates, 60,000 children are born each year with congenital syphilis.

The disease causes from 10 to 12 per cent of all deaths from heart disease. Each case of cardiovascular syphilis on the average cuts twenty-two years from the expected life span. Of every hundred patients with syphilis in the Cooperative Clinic Group studies, ten had obvious signs of cardiovascular involvement. At autopsy more than one half of the syphilitic patients show cardiovascular lesions.

Although less accurate data are available on the amount of neurosyphilis, it is known that, among the untreated and poorly treated, 30 per cent show spinal fluid changes, 19 per cent some clinical symptoms, and that 10 per cent of admissions to state insane hospitals are the result of dementia paralytica.

We know the distribution of syphilis in the population—approximately one fifth of cases occur in persons under 20 years of age. Between the sexes there is a ratio of two males to one female infected. The disease is more prevalent in cities than in rural areas and is six times as prevalent among Negroes as among white persons. There is considerable geographic variation in prevalence, ranging from as low as 100 new cases per hundred thousand of the population each year seeking treatment in settled rural areas to 2,900 in some cities and, for the country as a whole, 390.

We know what treatment will accomplish. From the standpoint of spread, treatment is prevention. From the standpoint of the average individual the Clinical Cooperative Group observations, arrived at by critical professional and statistical analysis, tell us with almost slide-rule exactness what to expect from specific amounts and types of treatment in early and latent syphilis. Relapse, arrest, serologic response, cure, cardiovascular and central nervous system involvement, outcome of pregnancy, each is charted so that all may read the results of ten years of work by five of our leading clinics on a total of patients now approaching the 70,000 mark.

We know where syphilis is treated. One half of all practicing physicians are constantly treating one or more cases, representing 59 per cent of the total. The remainder are being cared for in the 1,343 clinics, dispensaries and public institutions of the country.

We know the specific obstacles to the prosecution of a successful campaign against syphilis. Medical and public opinion is agreed as to the actions needed to remove such obstacles.

One half of known cases are not recognized or do not seek medical care during the first year of the disease when the chance of spread and the opportunity of cure are greatest. Cases must be found and treated early. Every suspicious initial lesion should mean a darkfield examination, repeated if necessary. The diagnosis of primary syphilis is a laboratory procedure. Physicians must look for syphilis in their general practice. Every pregnant woman must have a serodiagnostic test in as routine a manner as a urinalysis. Every hospital admission, every case of doubtful diagnosis, every physical examination, every life insurance examination should include a serodiagnostic test. Medical examinations before marriage should be required by law and should include laboratory evidence of freedom from syphilis. One in five men and three in five women coming for treatment were unaware of their disease until it was recognized in the course of some other examination. In population groups with a high prevalence, such as Negroes, Mexicans and Puerto Ricans, whole communities should have a blood test family by family. The Wassermann dragnet must be cast widely to find cases.

Attitude of the General Practitioner

The average doctor treating syphilis looks on the patient as an interesting case. He can do something about it; just as he gives his diabetic patient insulin, so he can begin his courses of arsphenamine and bismuth compounds. But he does not consider the patient with early syphilis as he would a patient with smallpox. "Where did you get the disease?" "Whom may you have exposed?" The case of smallpox is reported. In my opinion Marion Sims was right in urging similar control of syphilis. Every case of early syphilis must be looked on not simply as a patient but as a starting point in finding other infectious individuals.

The physician who undertakes the treatment of a case of syphilis assumes two general responsibilities. First, to the patient. He must see the patient through to a cure, regardless of the patient's financial condition, or he must refer the patient to a public clinic. Second, he must either inquire diligently concerning the source of the infection and contacts, get them under treatment and inform the health officer that he has done so, or he must permit the health department itself to do this essential public health job. The patient who continues treatment faithfully need not have his privacy invaded as much as a scarlet fever patient, for example. The syphilis patient who stops treatment while still potentially infectious, however, violates all privileges of privacy.

Syphilis is an epidemic disease. Evidence is piling up that it does not spread through the population like a fog over the bottoms. Syphilis is kept alive and spreads in the population by a series of small epidemics. These can be traced as in any other epidemologic work. Sources of infection and contact cases can be located and brought under treatment. As yet the health facilities to do this job have not been created in any except the occasional community. In fact, most communities have not yet defined their job. The unknown can rarely be attacked with success.

Even for those patients who start treatment, only one in four receives as much as twenty doses of an arsphenamine with a concomitant preparation of heavy metal. Too many doctors still are satisfied to give one or two courses and let the patient go if the blood serologic test becomes negative. A negative serologic test of the blood is no index of arrest or of cure of later noninfectiousness. The two great barriers to cure, however, are the ignorance of the patient concerning the amount and kind of treatment which he needs, and the cost of treatment. Of the patients who do start treatment, 75 per cent stop short of one year's care. This is less than the minimum to insure against spread and later serious complications for the patient himself.

At least one half of the syphilitic patients of the country cannot afford to pay for treatment even at the minimum prevailing rates in private practice. This is especially true if the patient must bear the cost of blood and spinal fluid tests and of other special examinations. The same yardstick used in determining eligibility for public relief—food and shelter—is not adequate to measure the inability of a syphilitic patient to pay for treatment. Yet all over the land there are clinics which will admit only those patients who are already on the relief rolls. State laboratories in a dozen states will not examine a blood specimen unless the doctor sending it certifies that the patient is indigent. Whole communities, including cities of considerable size, have no public or eleemosynary provision for treating indigent cases of syphilis.

I do not advocate the treatment of all patients with syphilis at public expense. This should not be necessary or desirable. It will not be if practicing physicians will look for syphilis and know how to diagnose and treat it, both as a disease and as a communicable infection. Additional public and voluntary funds, however, are needed to remove the economic barrier to care for those unable to pay for such services. The National Conference on Venereal Disease Control stated that the public clinic is the backbone of any community program for the control of syphilis and recommended that public clinics should accept three types of patients:

1. Any patient for diagnosis and emer-

gency treatment if infectious.

2. Any patient referred by a private physician either for treatment or for an examination, consultation and return to private care.

3. All other patients who are unable to pay private physicians.

The natural concern of physicians lest public clinics intrude on private practice by treating patients able to pay, in my experience, has only a slight foundation. No patient who can pay a physician is willing to subject himself to the inconvenience of a crowded public clinic. This is true even of a good clinic. Very few of our clinics as yet are good clinics. More often they are treatment mills with scant individualized attention to patients. In one city recently my representative reported that "they give more attention to the examination of the dairy cattle supplying milk to the city than they do to the syphilitic patient in their clinic." Bad as is the average public clinic, the National Conference agreed that it gives as good care as the average private physician.

Not only is the laboratory service in many of our states restricted in amount, but recent check tests show that many public and private laboratories alike are rendering an inefficient service. Some of them are labeling as syphilitic one person in ten who does not have the disease. Others use such an insensitive technic that they miss one half of those who are syphilitic. The whole laboratory service of the country needs a complete overhauling. Every laboratory presuming to make serologic tests should be willing to meet minimum state standards of performance.

The picture is not all black, however. Much progress has been made during the past year through the stimulus of Social Security funds in providing in many states some of the elements of a successful control program. Of more importance, we are witnessing for the first time a cooperative effort between the whole medical profession and the health agencies, federal, state and local, in a joint attack on this public health problem. At the last annual conference of presidents and secretaries of state medical societies it was unanimously voted that each state society be asked to appoint a special committee to cooperate with the state health department in syphilis control. More than half of the state societies have appointed such committees and are working out programs.

PLAN FOR CONTROL OF SYPHILIS

In a country as diverse as this, no one stock plan of syphilis control is applicable. In each state and in each city the problem needs to be studied and a plan of action developed to meet particular local needs. Certain basic principles, however, have general application. These principles may be summarized briefly as follows:

1. There should be a trained public health staff to deal with syphilis in each state and city.

2. Minimum state laws should require reporting of cases, follow up of delinquents, and the finding of sources of infection and contacts.

3. Premarital medical certificates, including serodiagnostic tests, should be a legal requirement.

4. Diagnostic services should be freely available to every physician without charge and should meet minimum state standards of performance.

5. Treatment facilities should be of good quality, with convenient hours and location. Wherever possible the clinic service should be a part of an existing hospital dispensary. Hospital beds should be provided for patients needing bed care.

6. The states should distribute antisyphilitic drugs to physicians for the treatment of all patients.

7. Routine serodiagnostic tests need to be used much more widely. In particular, every pregnancy, every hospital admission, every complete physical examination should include this test.

8. The informative program in modern diagnosis, treatment and control should be prosecuted vigorously among physicians and health officers, especially through the use of trained consultants.

9. The public educational program must be persistent, intensive, and aimed especially at those individuals in the age groups in which syphilis is most frequently acquired.

If these principles are applied to meet varying local conditions, no one can doubt that the shadow of syphilis will be lifted from the land.

CONCLUSION

Sixty-one years ago Marion Sims pointed the way. With the passage of the years his opinion has been shared by some of the most eminent clinicians of the day, among them Sir William Osler. Speaking before the Medical Society of London, Osler's oration "The Campaign Against Syphilis" did much to allay medical opposition to the then pending venereal disease control law. In it he said "We are committed, then, to a campaign of education and an elaborate scheme of treatment. Two circumstances make it probable that these measures—a good beginning let us grant—will not suffice in themselves to reach the enemy.

"Realizing as fully as any one the strong arguments against notification (of the venereal diseases), the gravity of the situation outweighs with me all private considerations . . .

"To be successful in this fight we must have control of the patients. The treatment must be compulsory."

Among the closing words of his address were these:

"That the state has at last intervened is ground for hope. In the matter of health you may trust the people. Once get democracy to realize that it is diseased and it displays a Job-like regard for its skin."

Within the past year the sentiment of organized medicine has been expressed in an editorial in The Journal of The American Medical Association: "The conquest of syphilis is the next great objective in public health. . . . The history of medical progress shows instance after instance in which the combined forces of medicine and public health have conquered disease as far as public cooperation could be procured. . . . With the combined efforts of physicians, public health officials, educators and the public, syphilis can be conquered next."

The object of the Public Health Service in fighting syphilis is identical with the history objective of the profession of which we are part. It is not to make industry more efficient, though we hope we shall. It is not to save Americans money, though success will save them very much. It is not to make any of us more comfortable and contented, though syphilis causes much discomfort and discontent. It is to make the lives of Americans more healthful and more secure.

WEAVER HEALTH BUILDING

College Physical Education and Health Activities Are Located in This Building. Swimming Pool Also Located Here.

OFFICIAL ANNOUNCEMENTS

PROGRAM

Kentucky State Medical Association
Richmond
September 13-14-15-16, 1937
Tuesday, September 14
9:00 A. M.

Call to Order by the President
Invocation ....Dr. C. L. Breland
Pastor First Baptist Church, Richmond
Address of Welcome....Lt. Gov. Keen Johnson
Frankfort
Installation of President
Report of Committee on Arrangements ....Robert Sory
Richmond

Scientific Session
Tuesday, September 14
9:30 A. M.

1. A Case of Urinary Retention ....E. O. Guerrant
Winchester
2. Epidemiology of Tuberculosis..J. B. Floyd
Richmond
3. Alcaptonuria, Report of Case....L. H. South
Louisville
4. Pneumonia ....W. J. Shelton
Mayfield
5. Treatment of Recent Wounds ....R. A. Griswold
Louisville
6. Colloidal Sulphur Therapy ....R. T. Ballard
Harrodsburg

Special Order
Tuesday, September 14
12 M.
Oration in Surgery
J. A. Ryan, Covington

Scientific Session
Tuesday, September 14
2:00 P. M.

1. The Role of the Electrocardiograph in the Diagnosis, Prognosis and Management of Cardiac Infarction ....C. N. Kavanaugh
Lexington
2. Renal Tuberculosis ....J. A. Bowen
Louisville
3. Present Trends in Prostatectomy ....J. Mac. Townsend
Louisville
4. Urolithiasis ....E. D. Smith
Owensboro
5. Management of Eclampsia ....A. D. Butterworth
Murray

6. The Uses of the Ovarian Hormones in Obstetrics ....Silas Starr
   Louisville

Public Meeting

Tuesday, September 14
8:00 P. M.

President's Address—Blindness—The Prevention of Blindness ....H. G. Reynolds
Paducah

Address ....Irvin Abell
Louisville

President-Elect, American Medical Association.

Scientific Session

Wednesday, September 15
8:30 A. M.

1. What the General Practitioner Should Know About the Histopathology of the Nasal Accessory Sinuses: Its Use as an Index and Guide in the Diagnosis and Management of Nasal Sinus Disease ....J. D. Heitger
   Louisville
2. Nasal Accessory Sinuses and Their Relation to the Respiratory Tract ....Claude T. Wolfe
   Louisville
3. Management of Eye Injuries ....M. C. Baker
   Louisville
4. Laryngeal Diphtheria and its Management ....D. L. Salmon
   Madisonville
5. Local and General Considerations of Some Common Eye Diseases ....F. W. Pirkey
   Louisville

Special Order

Wednesday, September 15
12:00 M.

Oration in Medicine

A Tribute to My Profession....A. W. Nickell
Louisville

Scientific Session

Wednesday, September 15
2:00 P. M.

1. Sulphanilamide ....Morris Flexner
   Louisville
2. The Rectum as a Much Neglected Seat of Focal Infection ....H. A. Gilliam
   Mayfield
3. Cancer of the Breast Retrospect and Preview ....Louis Frank
   Louisville
4. The Acute Abdomen in General Practice ....G. M. McClure
   Danville
5. Some Observations in Abdominal Surgery with Some Interesting Case Reports....E. L. Henderson
   Louisville

Scientific Session

Wednesday, September 15
4:30 P. M.—5:30 P. M.

Round Table Discussion

Obstetrics ....Led by Edward Speidel
Louisville

Arthritis ....Led by D. E. Jones
Louisville

Eye, Ear, Nose and Throat ....

Annual Subscription Dinner
In Honor of

Irvin Abell, President-Elect, American Medical Association, and A. T. McCormack, President-Elect, American Public Health Association.

Wednesday, September 15
6:30 P. M.

Address ....A. T. McCormack
Louisville

Address—Chronic Ulcerative Colitis (With Special Reference to the Surgical Management) ....Henry Cave
New York City

Scientific Session

Thursday, September 16
8:30 A. M.

1. Pelvic Infections ....I. J. Hoover
   Owensboro
2. Where Private Practice Ends and Public Health Begins ....W. B. Atkinson
   Campbellsville
3. Some Practical Considerations in Diagnosis and Treatment of Lues ....A. B. Loveman
   Louisville
4. Neurological Changes Associated with Pernicious Anemia ....John J. Moren
   Louisville
5. Nephritis in Children.........James W. Bruce
   Louisville
6. The Management of the Acute Diarrheas in Infancy.........M. C. Spradlin
   Somerset

Scientific Session

Thursday, September 16
1:30 P. M.

1. Diphtheria ....Lee Palmer
   Louisville
2. Doctors and Their Relations to Malpractice Suits ....Clark Bailey
   Harlan
3. Better Obstetrics and Less Gynecology ....E. C. Wilhite
   Covington

PROGRAM OF PEDIATRIC CLINIC

The American Academy of Pediatrics through its State Chairman, P. F. Barbour and the members of his committee are arranging a general pediatric meeting at Richmond, Monday, September 13th. The program which begins at 10 A. M. is as follows:

"The Use of Mandelic Acid in the Treatment of Pyelitis in Children.......................
Thomas Marshall, Paducah

"Management of the Sick Child"..................
Leslie W. Winans, Ashland

"Treatment of Pneumonia in Children,"
Charles McKinlay, Lexington

"Surgical Treatment of Empyema"...............
F. M. Massie, Lexington

Between two and three p. m. a clinic will be held by James W. Bruce, Louisville, and the round table conference between three and four p. m. by Lee Palmer, Louisville.

The papers and discussions will be very practical and should prove most interesting and helpful to the general practitioner. The discussion will be open to anyone who wants to speak.

A similar meeting held at Paducah had an attendance of more than forty doctors. If anyone should want a particular subject discussed at the round table conferences, please notify the Chairman.

LOCAL COMMITTEES FOR THE STATE MEDICAL MEETING

General Chairman and Chairman of Committee on Arrangements

Robert Sory

ENTERTAINMENT COMMITTEE

O. F. Hume, Chairman
C. B. Marcum
J. H. Rutledge

FINANCE COMMITTEE

J. H. Rutledge, Chairman
L. C. Coleman
R. M. Phelps

COMMITTEE ON PLACES OF MEETING

J. D. Farris, Chairman
R. L. Pope
J. A. Mahaffey

PUBLICITY AND HOTELS COMMITTEE

H. G. Wells, Chairman
Hugh Mahaffey
J. D. Farris

AUTOMOBILE COMMITTEE

J. B. Floyd, Chairman
Shelby Carr
Murison Dunn

RECEPTION COMMITTEE

J. G. Bosley, Chairman
N. A. Bailey
J. W. Armstrong
H. A. Hughes
J. W. Hill
R. H. Cowley
Albert F. Cornelius
Thomas Clouse
R. E. Bartlett
Alson Baker
C. E. Smoot
F. H. Smith
M. M. Robinson
M. G. Pope
H. C. Pope
R. H. Paine
H. C. Jasper
John C. Baker

OFFICIAL CALL

THE KENTUCKY STATE MEDICAL ASSOCIATION
TO BE HELD IN THE HIRAM BROCK AUDITORIUM,
EASTERN KENTUCKY STATE COLLEGE, RICHMOND

To the Officers and Members of the Component County Societies of the Kentucky State Medical Association.

The Samuel D. Gross Memorial Meeting of the Kentucky State Medical Association will convene in the Hiram Brock Auditorium in the Administration Building, Monday, Tuesday, Wednesday and Thursday, September 13, 14, 15, and 16, 1937.

THE HOUSE OF DELEGATES

The House of Delegates of the Kentucky State Medical Association will convene in the Old Auditorium at 2 P. M. and at 7:30 P. M. on Monday, September 13, 1937.

FIRST GENERAL SESSION

The First General Session, which constitutes the opening exercises of the scientific function of the Association, will be held in the Hiram Brock Auditorium, Administration Building, Tuesday, September 14 at 9 A. M.

THE COUNCIL

The Council will convene in the Recreation Room, Administration Building, Monday, September 13 at 10:30 A. M.

REGISTRATION DEPARTMENT

The Registration Department will be open in the foyer of the Hiram Brock Auditorium, Administration Building, from 10:00 A. M. to 5:00 P. M. on Monday, September 13; from 8:00 A. M. to 5 P. M. Tuesday and Wednesday September 14 and 15, and from 8:00 A. M. to 12:00 noon on Thursday, September 16, 1937.

COUNCILOR DISTRICTS

FIRST DISTRICT

V. A. Stilley, Benton, Councilor

Ballard
Caldwell
Calloway
Carlisle
Crittenden
Hickman
Livingston
McCracken
Marshall
Trigg
Graves
Fulton
Lyon

SECOND DISTRICT

D. M. Griffith, Owensboro, Councilor

Daviess
Hancock
Henderson
Hopkins
McLean
Muhlenberg
Ohio
Union
Webster

THIRD DISTRICT

C. C. Turner, Glasgow, Councilor

Allen
Barren
Butler
Christian
Cumberland
Logan
Monroe
Metcalfe
Simpson
Todd
Warren-Edmonson

FOURTH DISTRICT

J. I. Greenwell, New Haven, Councilor

Breckenridge
Bullitt
Grayson
Hardin
Hart
Larue
Meade
Nelson
Spencer

FIFTH DISTRICT

J. L. Lukins, Louisville, Councilor

Carroll
Oldham
Franklin
Gallatin
Henry
Jefferson
Shelby
Trimble
Owen

SIXTH DISTRICT

W. B. Atkinson, Campbellsville, Councilor

Adair
Anderson
Boyle
Green
Marion
Mercer
Taylor
Washington

SEVENTH DISTRICT

V. G. Kinnaird, Lancaster, Councilor

Casey
Clinton
Garrard
Lincoln
McCreary
Pulaski
Rockcastle
Russell
Wayne

EIGHTH DISTRICT
J. L. Shafer, Covington Councilor

Boone
Bracken
Campbell-Kenton
Fleming
Grant
Harrison
Mason
Nicholas
Pendleton
Robertson

NINTH DISTRICT
S. C. Smith, Ashland, Councilor

Boyd
Carter
Elliott
Floyd
Greenup
Johnson
Lewis
Lawrence
Martin
Magoffin
Pike

TENTH DISTRICT
C. A. Vance, Lexington, Councilor

Bath
Bourbon
Breathitt
Clark
Fayette
Jessamine
Lee
Madison
Menifee
Montgomery
Morgan
Owsley
Powell
Rowan
Scott
Wolfe
Estill
Woodford

ELEVENTH DISTRICT
H. K. Buttermore, Liggett, Councilor

Bell
Clay
Harlan
Jackson
Knott
Knox
Laurel
Letcher
Leslie
Perry
Whitley

CONSTITUTION AND BY-LAWS OF THE KENTUCKY STATE MEDICAL ASSOCIATION ADOPTED AT PADUCAH IN 1902 AS AMENDED

CONSTITUTION

ARTICLE I. NAME OF THE ASSOCIATION

The name and title of this organization shall be the Kentucky State Medical Association.

ARTICLE II. PURPOSE OF THE ASSOCIATION

The purpose of the Association shall be to federate and bring into compact organization the entire medical profession of the State of Kentucky, and to unite with similar associations in other states to form the American Medical Association, with a view to the extension of medical knowledge, and to the advancement of medical science, to the elevation of the standard of medical education, and to the enactment and enforcement of just medical laws; to the promotion of friendly intercourse among physicians, and to the guarding and fostering of their material interest and to the enlightenment and direction of public opinion in regard to the great problem of state medicine, so that the profession shall become more capable and honorable within itself, and more useful to the public in the prevention and cure of disease, and in prolonging and adding comfort to life.

ARTICLE III. COMPONENT SOCIETIES

Component societies shall consist of those county medical societies which hold charters from this Association.

ARTICLE IV. COMPOSITION OF THE ASSOCIATION

Section 1. This Association shall consist of Members, Delegates and Guests.

Section 2. MEMBERS. The members of this Association shall be the members of the component county medical societies.

Section 3. DELEGATES. Delegates shall be those members who are elected in accordance with this Constitution and By-Laws to represent their respective component county societies in the House of Delegates of this Association.

Section 4. GUESTS. Any distinguished physician not a resident of this State may become a guest during any Annual Session upon invitation of the Association or its Council, and shall be accorded the privileges of participating in all of the scientific work of that session.

ARTICLE V. HOUSE OF DELEGATES

The House of Delegates shall be the legislative and business body of the Association, and shall consist of (1) Delegates elected by the component county societies, (2) *ex-officio,* the officers of the Association as defined in Article VIII, Section 1, of this Constitution, and (3) the five immediate past presidents.

ARTICLE VI. SECTIONS AND DISTRICT SOCIETIES

The House of Delegates may provide for a division of the scientific work of the Association into appropriate Sections, and for the organization of such Councilor District Societies as will promote the best interest of the profession, such societies to be composed exclusively of members of component county societies.

ARTICLE VII. SESSIONS AND MEETINGS

Section 1. The Association shall hold an Annual Session, during which there shall be held daily not less than two General Meetings, which shall be open to all registered members, delegates and guests.

Section 2. The time and place for holding each annual session shall be fixed by the House of Delegates.

ARTICLE VIII. OFFICERS

Section 1. The officers of this Association shall be a President, three Vice-Presidents, a Secretary, a Treasurer, and eleven Councilors.

Section 2. The President and Vice-Presidents shall be elected for a term of one year. The Secretary, Treasurer and Councilors shall be elected for terms of five years each, the Councilors being divided into classes so that two shall be elected each year. All of these officers shall serve until their successors are elected and installed.

Section 3. The officers of the Association shall be elected by the House of Delegates on the morning of the last day of the Annual Session but no Delegates shall be eligible to any office named in the preceding section, except that of Councilor, and no person shall be elected to any such office who is not in attendance upon the Annual Session, and who has not been a member of the Association for the past two years.

Article IX. Funds and Expenses

Funds for meeting the expenses of the Association shall be arranged for by the House of Delegates by an equal per capita assessment upon each county society to be fixed by the House of Delegates, by voluntary contribution, and from the profits of its publication. Funds may be appropriated by the House of Delegates to defray the expenses of the Annual Session, for publication and for such other purposes as will promote the welfare of the Association and profession.

Article X. Referendum

The General Meeting of the Association may, by a two-thirds vote, order a general referendum upon any question pending before the House of Delegates, and the House of Delegates may, by a similar vote of its own members, or after a like vote of the General Meeting, submit any such question to the membership of the Association for a final vote; and if the persons voting shall comprise a majority of all the members, a majority of such vote shall determine the question and be binding upon the House of Delegates.

Article XI. The Seal

The Association shall have a common Seal with power to break, change or renew the same at pleasure.

Article XII. Amendments

The House of Delegates may amend any article of this Constitution by a two-thirds vote of the delegates registered at that Annual Session, provided that such amendment shall have been presented in open meeting at the Previous Annual Session, and that it shall have been sent officially to each component county society at least two months before the session at which final action is to be taken.

BY-LAWS

Chapter I. Membership

Section 1. All members of the Component County Societies shall be privileged to attend all meetings and take part in all the proceedings of the Annual Session, and shall be eligible to any office within the gift of the Association. Provided, that no physician may become a member of any county society unless he signs and keeps inviolate the following pledge:

I hereby promise upon my honor as a gentleman that I will not so long as I am a member of the Kentucky State Medical Association practice division of fees in any form; neither by collecting fees from others referring patients to me nor by permitting them to collect fees from me nor will I make joint fees with physicians or surgeons referring patients to me for operation or consultation; neither will I in any way, directly or indirectly, compensate anyone referring patients to me nor will I utilize any man as an assistant as a subterfuge for this purpose.

Section 2. The name of a physician upon the properly certified roster of members, or list of delegates, of a chartered county society which has paid its annual assessment, shall be *prima facie* evidence of his right to register at the Annual Session in the respective bodies of this Association.

Section 3. No persons who are under sentence or suspension or expulsion from any component society of this Association, or whose name has been dropped from its rolls of membership shall be entitled to any of the rights or benefits of this Association, nor its proceedings until such time as he has been relieved of such liability.

Section 4. Each member in attendance at the Annual Session shall enter his name on the registration book indicating the component society of which he is a member. When his right to membership has been verified by reference to the roster of the society, he shall receive a badge which shall be evidence of his right to all the privileges of membership at that session. No member or delegate shall take part in any of the proceedings of an annual session until he has complied with the provisions of this section.

Chapter II. Annual and Special Session of the Association

Section 1. The Association shall hold an annual session, meeting every third year in the city of Louisville, and the other two years at some point in the State fixed at the preceding annual session.

Chapter III. General Meeting

Section 1. The General Meeting shall include all registered members, delegates, and guests, who shall have equal rights to participate in the proceedings and discussions, and except guests, to vote on pending questions. Each General Meeting shall be presided over by the President or in his absence or disability or upon his request, by one of the Vice-Presidents. Before it, at such time and place as may have been arranged, shall be delivered the annual address of the President, and the annual orations and the entire time of the sessions as far as may be, shall be devoted to papers and discussions relating to scientific medicine.

Section 2. The General Meeting shall have authority to create committees or commissions for scientific investigation of special interest and importance to the profession and public, and to receive and dispose of reports of the same; but any expense in connection therewith must first be approved by the House of Delegates.

Section 3. Except by special vote, the order of exercises, papers and discussions as set forth in the official program shall be followed from day to day until it has been completed.

Section 4. No address or paper before the Association except those of the President and orators shall occupy more than twenty minutes in its delivery; and no member shall speak longer than five minutes, nor more than once on any subject.

Section 5. All papers read before the Association shall be its property. Each paper shall be deposited with the Secretary when read and if this is not done it shall not be published.

Chapter IV. House of Delegates

Section 1. The House of Delegates shall meet annually at the time and place of the Annual Session of the Association and shall so fix its hours of meeting as not to conflict with the first General Meeting of the Association, or with the meeting held for the address of the President and the annual orations and so as to give delegates an opportunity to attend the other scientific proceedings and discussions so far as is consistent with their duties. But if the business interests of the association and profession require, it may meet in advance or remain in session after the final adjournment of the General Meeting.

Section 2. Each component county society shall be entitled to send to the House of Delegates each year one delegate for every twenty-five members, and one for each major fraction thereof, but each county society holding a charter from this Association, which has made its annual report and paid its assessments as provided in this Constitution and By-Laws shall be entitled to one delegate. In case the regularly elected delegate or alternate is unable to attend the annual meeting of the Association, the President of the county society may in writing appoint an alternate, who shall have the rights and privileges of a delegate.

Section 3. A majority of the registered delegates shall constitute a quorum and all of the meetings of the House of Delegates shall be open to members of the Association.

Section 4. It shall, through its officers, Advisory Council, and otherwise, give diligent attention to and foster the scientific work and spirit of the Association, and shall constantly study and strive to make each Annual Session a stepping stone to further ones of higher interest.

Section 5. It shall consider and advise as to the material interest of the profession, and of the public in those important matters wherein it is dependent upon the profession, and shall use its influence to secure and enforce all proper medical and public health legislation, and to diffuse popular information in relation thereto.

Section 6. It shall make careful inquiry into the condition of the profession of each county in the State, and shall have authority to adopt such methods as may be deemed most efficient for building up and increasing the interest in such county societies as already exist and for organizing the profession in counties where societies do not exist. It shall especially and systematically endeavor to promote friendly intercourse between physicians of the same locality and shall continue these efforts until every physician in every county of the State who can be made reputable, has been brought under medical society influence.

Section 7. It shall encourage post-graduate work in medical centers as well as home study and research and shall endeavor to have the results of the same utilized and intelligently discussed in the county societies. With these ends in view, five years after the adoption of the By-Laws, no voluntary paper shall be placed upon the annual program nor be heard in the Association which has not first been read in the county society of which the author is a member.

Section 8. It shall elect representatives to the House of Delegates of the American Medical Association in accordance with the Constitution and By-Laws of that body, in such manner that not more than one-half of the delegates shall be elected in any one year.

Section 9. It shall upon application provide and issue charters to county societies organized to conform to the spirit of the Constitution and By-Laws.

Section 10. In sparsely settled sections it shall have authority to organize the physicians of two or more counties to be designated by hyphenating the names of two or more counties so as to distinguish them from district and other classes of societies and these societies, when organized and chartered shall be entitled to all the privileges and representation provided herein for county societies, until such counties may be organized separately.

Section 11. It may divide the counties of the State into Councilor Districts, and, when the best interests of the Association and profession will be promoted thereby, organize in each district a medical society, to meet midway between the annual session of the Association and members of the chartered county societies and none other shall be members.

When so organized from the presidents of such district societies shall be chosen the Vice-Presidents of this Association and the Presidents of the county societies of the district shall be Vice-Presidents of such district societies.

Section 12. It shall have authority to appoint committees for special purposes from among members of the Association who are not members of the House of Delegates, and such committees may report to the House of Delegates in person, and may participate in the debate thereon.

Section 13. It shall approve all memorials and resolutions issued in the name of the Association before the same shall become effective.

Section 14. It shall present a summary of its proceedings to the last General Meeting of each Annual Session, and shall publish the same as in the Journal.

CHAPTER V. ELECTION OF OFFICERS

Section 1. All elections shall be by secret ballot, and a majority of the votes cast shall be necessary to elect, provided, however, that when there are more than two nominees the nominee receiving the least number of votes on the first ballot shall be dropped and the balloting continue until an election occurs in like manner.

Section 2. Any member known to have directly or indirectly solicited votes for, or sought any office within the gift of this Association shall be ineligible for any office for two years.

Section 3. The election of officers shall be the first order of business of the House of Delegates after the reading of the minutes on the morning of the last day of the General Session.

Section 4. Nominations for President shall be called for by counties.

CHAPTER VI. DUTIES OF OFFICERS

Section 1. The President shall preside at all meetings of the Association and of the House of Delegates; shall appoint all committees not otherwise provided for; shall deliver annual address at such time as may be arranged; shall give a deciding vote in case of a tie, and shall perform such other duties as custom and parliamentary usage may require. He shall be the real head of the profession of the State during his term of office and so far as practicable, shall visit by appointment, the various sections of the State and assist the Councilors in building up the county societies and in making their work more practical and useful.

Section 2. The Vice-Presidents shall assist the President in the discharge of his duties. In the event of his death, resignation or removal the Council shall elect one of the Vice-Presidents to succeed him.

Section 3. The Treasurer shall give bond for the trust imposed in him whenever the House of Delegates shall deem it requisite. He shall demand and receive all funds due the association, together with the bequests and donations. He shall, under the direction of the House of Delegates, sell or lease any real estate belonging to the Association and execute the necessary papers and shall in general subject to such direction have the care and management of the fiscal affairs of the Association. He shall pay money out of the Treasury only on written order of the President, countersigned by the Secretary; he shall subject his accounts to such examinations as the House of Delegates may order, and he shall annually render an account of his doings and of the state of funds in his hands.

The Council shall be the executive body of the House of Delegates and between sessions shall exercise the powers conferred on the House of Delegates by the Constitution and By-Laws.

Section 4. The Secretary, acting with the Committee on Scientific Work, shall prepare and issue the program for and attend all meetings of the Association and of the House of Delegates and he shall keep minutes of their respective proceedings in separate record books. He shall charge upon his books the assessments against each component county society at the end of the fiscal year; he shall collect and make proper credits for the same, and perform such other duties as may be assigned him. He shall be custodian of all record books and papers belonging to the Treasurer, and shall keep account of and promptly turn over to the Treasurer all funds of the Association which come into his hands. He shall provide for the registration of the members and delegates at the Annual sessions. He shall keep a card index register of all local practitioners of the State by counties, noting on each his status in relation to his county society and upon request shall transmit a copy of this list to the American Medical Association for publication. In so far as it is in his power he shall use the printed matter, correspondence and influence of his office to aid the Councilors in the organization and improvement of the county societies and in the extension of the power and usefulness of this Association. He shall conduct the official correspondence, notify members of meetings, officers of their election, and committees of their appointment and duties. He shall act as secretary of the Committee on Scientific Work. He shall be editor of the KENTUCKY MEDICAL JOURNAL. He shall employ such assistants as may be ordered by the Council or the House of Delegates. He shall annually make a report of his doings to the House of Delegates.

In order that the Secretary may be enabled to give that amount of his time to his duties which will permit of his becoming proficient it is desirable that he shall receive some compensation. The amount of his salary shall be fixed by the House of Delegates.

CHAPTER VII. THE COUNCIL

Section 1. The Council shall hold daily meetings during the annual session of the Association and at such other times as necessity may require, subject to the call of the Chairman or on petition of three Councilors. It shall meet on the last day of the Annual Session of the Association for re-organization and for the outlining of the work for the ensuing year. At this meeting it shall elect a chairman and secretary and it shall keep a permanent record of its proceedings. It shall through its Chairman, make an annual report to the House of Delegates at such time as may be provided, which report shall include an audit of the account of the Secretary and Treasurer and other agents of this Association, and shall also specify the character and cost of all the publications of the Association during the year, and the amounts of all other property belonging to the Association, or under its control, with such suggestions as it may deem necessary. In the event of a vacancy in any office the Council may fill the same until the annual election.

Section 2. Each Councilor shall be organizer, peacemaker and censor for his district. He shall visit each county in his district at least once a year for the purpose of organizing component societies where none exist, for inquiring into the condition of the profession and for improving and increasing the zeal of the county societies and their members. He shall make an annual report of his doings, and of the condition of the profession of each county in his district to each Annual Session of the House of Delegates. The necessary traveling expenses incurred by Councilor in the line of his duties herein imposed may be allowed by the House of Delegates upon a proper itemized statement, but this shall not be construed to include his expense in attending the Annual Session of the Association.

Section 3. Collectively the Council shall be the Board of Censors of the Association. It shall consider all questions involving the right and standing of members, whether in relation to other members, to the component societies or to this Association. All questions on an ethical nature brought before the House of Delegates of the General Meeting shall be referred to the Council without discussion. It shall hear and decide all questions of discipline affecting the conduct of members or a county society upon which appeal is taken from the decision of an individual Councilor. Its decision in all such cases shall be final.

Section 4. The Council shall have the right to communicate the views of the profession and of the Association in regard to health, sanitation and other important matters to the public and the lay press. Such communications shall be officially signed by the chairman and secretary of the Council, as such.

Section 5. The Council shall provide for and superintend the publication and distribution of all proceedings, transactions and memoirs of the Association and shall have authority to appoint such assistants to the editors as it deems necessary. It shall manage and conduct the KENTUCKY MEDICAL JOURNAL, which is the organ of the association, and all money received by the JOURNAL, the Council or any officer of the Association, shall be paid to the Treasurer of the Association on the first of each month.

Section 6. All reports on scientific subjects and all scientific discussions and papers read before the Association shall be referred to the KENTUCKY MEDICAL JOURNAL for publication. The editor, with the consent of the Councilor for the District in which he resides, may curtail or abstract papers or discussions, and the Council may return any paper to its author which it may not consider suitable for publication.

Section 7. All commercial exhibits during the Annual Session shall be within the control and direction of the Council.

CHAPTER VIII. COMMITTEES

Section 1. The standing committees shall be as follows:

A Committee on Scientific Work.
A Committee on Public Relations.
A Committee on Medical Education.
A Medico-Legal Committee.

A Committee on Arrangements, and such other committees as may be necessary. Such committees shall be elected by the House of Delegates, unless otherwise provided.

Section 2. The Committee on Scientific Work shall consist of three members of which the President-elect shall be a member and Chairman and the Secretary shall be a member and Secretary, and shall determine the character and scope of the scientific proceedings of the Association, subject to the provisions or the instructions of the House of Delegates or of the Association, or to the provisions of the Constitution and By-Laws. Thirty days previous to each annual session it shall prepare and issue a program announcing the order in which papers, discussions and other business shall be presented which shall be adhered to by the Association as nearly as practicable.

Section 3. The Committee on Public Relations shall consist of three members and the President and Secretary. Under the direction of the House of Delegates it shall represent the Association in securing and enforcing legislation in the interest of the public health and scientific medicine. It shall keep in touch with the profession and public opinions, shall endeavor to shape legislation so as to secure the best results for the whole people and shall utilize every organized influence in local, state and national affairs and elections. Its work shall be done with dignity becoming a great profession and with that wisdom which will make effective its work and influence. It shall have authority to be heard before the entire Association upon questions of great concern at such times as may be arranged during the annual session.

Section 4. The Committee on Arrangements shall consist of the component society in the territory in which the annual session is to be held. It shall by committees of its own selection, provide suitable accommodations for the meeting places of the Association and of the House of Delegates, and of their respective committees and shall have general charge of all arrangements. Its Chairman shall report an outline of the arrangements to the Secretary for publication in the program and shall make additional announcements during the session as occasion may require.

Section 5. The Medico-Legal Committee shall consist of three members, one of whom, the Chairman, shall be elected by the Council for five years, and the Secretary and Treasurer shall be the other two members *ex-officio*. This committee shall select and fix the compensation for an attorney, who shall act as General Counsel, and if required, additional local counsel. The Association through this Committee shall defend its members who are in good standing against unjust suits for malpractice.

CHAPTER IX. ASSESSMENTS AND EXPENDITURES

Section 1. The assessment of five dollars per capita on the membership of the component societies is hereby made the annual dues of this Association. The Secretary of each county society shall forward its assessment together with its roster of all officers and members, lists of delegates, and list of non-official physicians of the county to the Secretary of this Association on the first day of January in each year.

Section 2. Any county society which fails to pay its assessments, or make the report required, on or before the first day of April in each year, shall be held as suspended, and none of its members or delegates shall be permitted to participate in any of the business or proceedings of the Association or of the House of Delegates until such requirements have been met.

Section 3. All motions or resolutions appropriating money shall specify a definite amount or so much thereof as may be necessary for the purpose indicated, and must be approved by the Council and House of Delegates.

CHAPTER X. RULES OF CONDUCT

The Principles set forth in the Principles of Ethics of the American Medical Association shall govern the conduct of members in their relation to each other and to the public.

CHAPTER XI. RULES OF ORDER

The deliberations of this Association shall be governed by parliamentary usage as contained in Roberts Rules of Order, unless otherwise determined by a vote of its respective bodies.

CHAPTER XII. COUNTY SOCIETIES

Section 1. All county societies now in affiliation with the State Association or those that may hereafter be organized in this State, which have adopted principles of organization not in conflict with this Constitution and By-Laws shall upon application to the House of Delegates, receive a charter from and become a component part of this Association.

Section 2. As rapidly as can be done after the adoption of this Constitution and By-Laws, a medical society shall be organized in every county in the State in which no component society exists, and charters shall be issued thereto.

Section 3. Charters shall be issued only upon approval of the House of Delegates and shall be signed by the President and Secretary of this Association. The House of Delegates shall have authority to revoke the charter of any component county society whose actions are in conflict with the letter or spirit of this Constitution and By-Laws.

Section 4. Only one component medical society shall be chartered in any county. Where more than one county society exists friendly overtures and concessions shall be made with the aid of the Councilor of the

District if necessary and all of the members brought into one organization. In case of failure to unite, an appeal may be made to the Council, which shall decide what action shall be taken.

Section 5. Each county society shall judge of the qualifications of its own members, but as such societies are the only portals to this Association every reputable and legally registered physician who is practicing, or who will agree to practice non-sectarian medicine shall be entitled to membership. Before a charter is issued to any county society, full and ample notice and opportunity shall be given to every physician in the county to become a member.

Section 6. Any physician who may feel aggrieved by the action of the society of the county in refusing him membership, or in suspending or expelling him, shall have the right to appeal to the Council, which upon a majority vote may permit him to become a member of an adjacent county society.

Section 7. In hearing appeals, the Council may admit oral or written evidence as in its judgment will best and most fairly present the facts, but in case of every appeal, both as a board and as individual councilors in district and county work, effort a conciliation and compromise shall precede all such hearings.

Section 8. When a member in good standing in a component society moves to another county in the State, his name, upon request, shall be transferred without cost to the roster of the county society into whose jurisdiction he moves.

Section 9. A physician living in or near a county line may hold membership in that county most convenient for him to attend, on permission of the society in whose jurisdiction he resides.

Section 10. Each county society shall have general direction of the affairs of the profession in the county, and its influence shall be constantly exerted for bettering the scientific, moral and material conditions of every physician in the county; and systematic efforts shall be made by each member, and by the society as a whole, to increase the membership until it embraces every qualified physician in the county.

Section 11. Frequent meetings shall be encouraged, and the most attractive programs arranged that are possible. The younger members shall be especially encouraged to do post-graduate and original research work, and to give the society the first benefit of such labors. Official position and other preferences shall be unstintingly given to such members.

Section 12. At the time of the annual election of officers each county society shall elect a delegate or delegates to represent it in the House of Delegates of this Association in the proportion of one delegate to each twenty-five members or major fraction thereof, and the secretary of the society shall send a list of such delegates to the Secretary of this Association at least sixty days before the Annual Session.

Section 13. The Secretary of each county society shall keep a roster of its members and a list of the non-affiliated registered physicians of the county, in which shall be shown the full name, address, college and date of graduation, date of license to practice in this State, and such other information as may be deemed necessary. He shall furnish an official report containing such information, upon blanks supplied him for the purpose, to the Secretary of this Association, on the first day of January of each year, or as soon thereafter as possible, and at the same time that the dues accruing from the annual assessment are sent in. In keeping such roster the Secretary shall note any change in the personnel of the profession by death, or by re- his annual report he shall be certain to ac- his annual report he shall be certain to account for every physician who has lived in the county during the year.

Section 14. The Secretary of each county society shall report to the Kentucky Medical Journal full minutes of each meeting and forward to it all scientific papers and discussions which the society shall consider worthy of publication.

Chapter XIII. Amendments

These By-Laws may be amended by any Annual Session by a two-thirds vote of all the delegates present at that session, after the amendment has been laid on the table for one day.

CONSTITUTION AND BY-LAWS FOR COUNTY SOCIETIES

Prepared by the Committee on Organization
of the American Medical Association
of which the late Dr. J. N. McCormack was Chairman

Article I. Name and Title of the Society

The name and title of this organization shall be the —————————— County Medical Society.

Article II. Purpose of the Society

The purpose of this society shall be to bring into one organization the physicians of ——————————County, so that by frequent meetings and full and frank interchange of views they may secure such intelligent unity and harmony in every phase of their labor as will elevate and make effective the opinions of the profession in all scientific, legislative, public health, material and social affairs, to the end that the profession may receive that respect and support within its own ranks and from the community to which its honorable history and great achievements entitle it; and with other county societies to form the —————————— State Medical Association, and through it, with other state associations, to form and maintain the American Medical Association.

Article III. Eligibility

Every legally registered physician residing and practicing in —————————— County who is of good moral and professional standing and who does not support or practice, or claim to practice, any exclusive system of medicine, shall be eligible for membership.

Article IV. Meetings

Regular meetings shall be held at such time and place as may be determined by the Society.

Special meetings may be called by the President and shall be called on a written request of five members. A call for a special meeting shall state the object of such meeting, at which no business except that stated in the call shall be transacted.

Article V. Officers

The officers of this Society shall consist of a President, Vice-President, Secretary, Treasurer, Delegates and Board of three Censors. These officers, except the Delegates and Board of Censors, shall be elected annually. Delegates shall be elected for two years, and in accordance with the constitution and bylaws of the state association. One member of the Board of Censors shall be elected each year to serve for three years, provided that at the first election after the adoption of this constitution one member of the Board shall be elected for one year, one for two, and one for three years.

Article VI. Funds and Expenses

Funds for meeting the expenses of the Society shall be raised by annual dues, special assessments and voluntary contributions. Funds may be appropriated by vote of the Society for such purposes as will promote its welfare and that of the profession.

Article VII. Charter

The Society shall apply to the council of the state association for a charter at the meeting at which this constitution and bylaws are adopted, or as soon thereafter as practicable, and the charter shall be kept by the Secretary.

Article VIII. Incorporation

The Society shall have authority to appoint a Board of Trustees and to provide for articles of incorporation whenever it may deem this necessary.

IX Amendments

The Society may amend any article of this constitution by a two-thirds vote of its members at any regular meeting, provided that such amendment or amendments are not in conflict with the laws and regulations of the state association; provided, also, that such amendment shall have been read in open session at a previous regular meeting and shall have been sent by mail to each member ten days in advance of the meeting at which final action is to be taken.

BY-LAWS

Chapter I. Membership

Section 1. The Society shall judge of the qualification of its members, but as it is the only door to the State Medical Association and to the American Medical Association for physicians within its jurisdiction, every reputed and legally qualified physician of ——————county who does not support or practice or claim to practice, sectarian medicine shall be eligible to membership.

Section 2. A candidate for membership shall make application in writing and shall state his age, his college and date of graduation, the place in which he has practiced, and the date of registration in this state. The application must be accompanied by the admission fee and must be endorsed by two members of this Society. It shall be referred to the Board of Censors, who shall inquire into the standing of the applicant, assure themselves that he or she is duly registered according to the laws of the state, and report at the next regular meeting of this Society. Election shall be by ballot, and two thirds of the votes of the members present and voting shall be necessary to elect. The application shall be returned to the Secretary, who shall file it for future reference. Applications for membership from rejected candidates shall not be received within six months of such rejection.

Section 3. A physician, accompanying his application with a transfer card from another component county society of this or any state within 60 days of the issuance of said card, shall be admitted without fee on a majority vote of the members present, and without the application being referred to the Board of Censors. Such application may be acted on at the meeting at which it is presented on the vote of three fourths of the members present, otherwise it shall lie over until the next regular meeting. No annual dues for the current year shall be charged against such members provided the same have been paid to the Society from which the applicant comes.

Section 4. A physician residing in an immediately adjoining county may become a member of this Society in like manner and on the same terms as a physician living in this county, by permission of the county society of the county in which the applicant lives.

Section 5. A member in good standing who is free from all indebtedness to this Society, and against whom no charges are pending wishing to withdraw, shall be granted a transfer card. This card shall state the date the member associated himself with the Society, the date of issuance of the card, and shall be signed by the President and Secretary. It shall be accompanied with a copy of the application presented at the time the member joined the Society, for information to the Society to which the member desires to attach himself.

Section 6. All members shall be equally privileged to attend all meetings and take part in all proceedings, and shall be eligible to any office or honor within the gift of the Society so long as they conform to this constitution and by-laws, including the payment of dues. A member who is under sentence of suspension or expulsion shall not be permitted to take part in any of the proceedings or be eligible to any office until relieved of such disability. And, provided further, that none of the privileges of membership shall be extended to any person not a member of this Society except on a majority vote of the Society in regular meeting.

Section 7. A member who is guilty of a criminal offense or of gross misconduct either as a physician or as a citizen, or who violates any of the provisions of this constitution and by-laws, shall be liable to censure, suspension or expulsion. Charges against a member must be made in writing and be delivered to the Secretary, who shall immediately furnish a copy to the accused and to the Chairman of the Board of Censors. The Board of Censors shall investigate the charges on their merits, but no action shall be taken by the Board within ten days of the presentation of the charges to the accused, nor before giving the accused and accusers ample opportunity to be heard. The board shall report (1) that the charges are not sustained; or (2) that the charges are sustained and that the accused be (a) censured; (b) suspended for a definite time, or (c) expelled. Censure or suspension shall require a two-thirds vote of the members present and voting and a three-fourths vote of those present and voting shall be required to expell a member. No action shall be taken by the Secretary in such cases until at least six weeks have elapsed since the filing of the charges. A member suspended for a definite time shall be reinstated at the expiration of the time.

Section 8. Kindly efforts in the interest of peace, conciliation or reformation, so far as possible and expedient, shall precede the filing of formal charges affecting the character or standing of a member, and the accused shall have opportunity to be heard in his own defense in all trials and proceedings of this nature.

Section 9. Members expelled from this Society for any cause shall be eligible for membership after one year from date of expulsion and on the same terms and in like manner as original applicants.

CHAPTER II. POWERS AND DUTIES

Section 1. This Society shall have general direction of the affairs of the medical profession of the county, and its influence shall be constantly exerted to better the scientific, material and social condition of every physician within its jurisdiction. Systematic efforts shall be made by each member, and by the Society as a whole, to increase the membership until it embraces every reputable physician in the county.

Section 2. A meeting shall be held at——— p. m. on the ———————in each month (or oftener).———members shall constitute a quorum.

The officers and committee on program shall profit by experiences and by example of other similar societies, and strive to arrange for the most attractive and successful proceedings for each meeting. Crisp papers and discussion and reports of cases shall be arranged for and encouraged, and tedious and profitless proceedings and discussions shall be avoided as far as practicable.

Section 3. Agreements and schedules for fees shall not be made by this Society, but at least one meeting during each year shall be set apart for discussion of the business affairs of the profession of the county, with the view of adopting the best methods for the guidance of all. In all proper ways the public shall be taught that business methods and prompt collections are essential to the equipment of the modern physician and surgeon and that is suffers even more than the profession when this is not recognized.

Section 4. This Society shall endeavor to educate its members to the belief that the physician should be a leader in his community, in character, in learning, in dignified and mannerly bearing, and in courteous and open treatment of his brother physicians, to the end that the profession may occupy that place in its own and the public estimation to which it is entitled.

CHAPTER III. OFFICERS

Section 1. The Officers of the Society shall be elected at the December meeting in each year which shall be known as the annual meeting. Nominations shall be made by informal ballot, and all elections be by ballot. The vote of the majority of all the members present shall be necessary to an election.

Section 2. The President shall preside at the meetings of the Society, and perform such other duties as custom and parliamentary usage may require. He shall be the real head of the profession in the county during the year, and it shall be the pride and ambition to leave it in better condition as regards both scientific attainments and harmony than at the beginning of his term of office.

Section 3. The Vice-President shall assist the President in the performance of his duties, shall preside in his absence, and on his death, resignation or removal from the county, shall succeed to the presidency.

Section 4. The Secretary shall record the minutes of the meetings and receive and care for all records and papers belonging to the Society, including its charter. He shall notify each member of the Society as to the time and place of each meeting, and, whenever possible, give the program for the meeting. He shall keep account of and promptly turn over to the Treasurer all funds of the Society which may come into his hands. He shall make and keep a list of the members of this Society in good standing, noting of each his correct name, address, place and date of graduation, and the date of the certificate entitling him to practice medicine in this state; and in a separate list he shall note the same facts in regard to each legally qualified physician in this county not a member of this Society. It shall be his duty to send a copy of such lists, on blank forms furnished him for that purpose, to the Secretary of the state association at such time as may be designated by the state association. In making such lists he shall endeavor to account for each physician who has moved into or out of the county during the year, stating when possible, both his present and past address. At the same time, and with his report of such lists of members and physicians, he shall transmit to the state association his order on the Treasurer for the annual dues of the Society.

Section 5. The Treasurer shall receive all dues and money belonging to the Society from the hands of the Secretary or members, and shall pay out the same only on the written orders of the President, countersigned by the Secretary.

Section 6. The Delegates shall attend and faithfully represent the members of this Society and the profession of this county in the House of Delegates of the state association, and shall make a report of the proceedings of that body to this Society at the earliest opportunity.

CHAPTER IV. COMMITTEES

Section 1. There shall be a Board of Censors as provided in the constitution, a Standing Committee on Program and Scientific Work, a Committee on Public Health and Legislation, and such special committees as may from time to time be deemed necessary.

Section 2. Board of Censors. This Board shall examine and report on the qualification of applicants for membership subjecting each applicant to such examination as it may deem necessary. It shall investigate charges preferred against a member, and report its conclusions and recommendations to the Society. In case of the absence of a member of the Board, the President may appoint such member to fill the vacancy. The senior member of the Board in point of service shall be Chairman of the Board.

Section 3. Committee on Program and Scientific Work. This Committee shall consist of the President, Vice-President and Secretary. It shall be the duty to promote the scientific and social functions of the Society by arranging attractive programs for each meeting and by urging each member to take part in the scientific work. It shall stimulate fraternalism and good feeling among the members in every way possible. (Provisions should be made in this Section for the annual luncheons, dinners, etc., which the Committee believes to be an excellent way to bring members together. Such occasions should be made as inexpensive as possible).

Section 4. Committee on Public Health and Legislation. This committee shall consist of three members who shall be appointed annually by the President. It shall be its duty to enforce and support the sanitary and medical laws of the state in this county, to co-operate with the Committee on Public Policy and Legislation of the state association in all matters pertaining to legislation, and to prosecute quacks and medical pretenders in this county.

CHAPTER V. FUNDS AND EXPENSES

Section 1. The admission fee, which must accompany the application, shall be $——— and shall include the annual dues for the fiscal year. The admission fee shall be returned if the applicant is not accepted.

Section 2. The annual dues shall be $——— and shall be payable on January 1 of each year. Any member who shall fail to pay his annual dues by April 1 shall be held as suspended without action on the part of the Society. A member suspended for nonpayment of dues shall be restored in full membership on payment of all indebtedness. Members more than one year in arrears shall be dropped from the roll of members.

Section 3. The fiscal year of this Society shall be from January to December inclusive.

CHAPTER VI. ORDER OF BUSINESS

The order of business shall be as follows:

1. Call to order by the President.
2. Reading of the minutes of last meeting.
3. Clinical cases.
4. Papers and discussions.
5. Unfinished business.
6. Miscellaneous business.
7. Announcements.
8. Adjournment.

CHAPTER VIII. RULES OF ORDER

The deliberations of this Society shall be governed by parliamentary usage as contained in Roberts' Rules of Order, unless otherwise determined by vote.

CHAPTER VIII. THE PRINCIPLES OF MEDICAL ETHICS

The Principles of Medical Ethics of the American Medical Association shall govern this Society.

CHAPTER IX. AMENDMENTS

These by-laws may be amended at any regular meeting by a two-thirds vote, provided that such amendment has been read in open session at the preceding regular meeting and a copy of the same has been sent to each member by the Secretary ten days in advance of the meeting at which final action is to be taken.

REPORT OF BUSINESS MANAGER

To the House of Delegates:

The duties of the Business Manager's office consists in card-indexing all articles received, listing dates of receipt, authors, and time of publication; multigraphing, stamping and mailing special letters for county and district society programs; assisting secretaries of these societies in securing speakers; arranging dates for speakers before schools and clubs, and, as Secretary of the League of Christian Physicians, in arranging with the ministers of the local churches in the place where the Annual Meeting is held for a church and assisting in obtaining an audience for the service.

All the material received for the Journal is carefully read, unfamiliar proper names are checked in the American Medical Association Directory, or Garrison's History of Medicine, and difficult words, obscurely written, are verified in the dictionaries. The sentences are not changed except where the copyist makes an error in grammar. All articles are published as far as possible in the order in which they are received. Occasionally some article is delayed on account of difficulty in getting the charts and illustrations properly arranged. All the material is read in galley proof and all typographical errors are corrected before it is arranged in page proof, where it is again carefully read. Every article appearing in the Journal, therefore, is read three times for errors before going to press by the Business Manager.

Over thirty thousand letters passed through the office during this fiscal year. They consist of appeals from Dr. Irvin Abell's committee for funds for the McDowell Home and Apothecary Shop, and of letters for district and county society programs. The material for the Journal is composed of editorials written by the Secretary and special members of the editorial staff; articles contributed by guest speakers, papers read before county and district societies and the State Medical Association. Papers contributed by special societies, such as the Medico-Chirurgical, are financed by these societies. The Council recommends to other societies that they avail themselves of the publication on similar terms.

The proceedings of the House of Delegates and the scientific sessions are published verbatim for permanent record and to give the members an opportunity to consider and study their contents. The financial statements are made in voucher check form so that any member may readily understand the exact nature of the various expenditures. No other medical organization within the knowledge of the writer makes such lucid financial statements.

The following table gives, on page basis, a comparative summary of the various types of material comprising the Journal for last two years.

	1936	1937
Editorials	51	69
Official Announcements	26	23
Original Articles	108	131
Reading Matter	600	600
County Societies	32	35
Advertising Pages	312	305

EXHIBITORS

The exhibit space will be conveniently located in the foyer of the Hiram Brock Auditorium in the Administration Building, in close proximity to the Registration Booth. This gives the members ample opportunity to visit all the booths without loss of time from the scientific sessions. The funds obtained from the sale of exhibit space are used to defray the expenses of the meeting. The exhibits thus not only serve as a post-graduate course in new books, surgical instruments, prepared foods and electrical displays, but also constitute a financial contribution to the meeting.

INDEX

In each December Journal is published an index of all the material in the Journal for the year ending with that number. This adds to the reference value of the Journal, especially if the members have their Journals bound. This office will be glad to assist in this service.

The work of this office is made a real pleasure by the active cooperation so readily given by the members of this Association.

Respectfully submitted,
L. H. SOUTH, M. D.

REPORT OF AUDITOR

To the Council of the Kentucky State Medical Association:

Gentlemen:—

I have made an examination of the books and records of your Secretary, Dr. A. T. McCormack, and your Treasurer, Dr. M. M. McDowell, for the period beginning September 1, 1936, and ending September 1, 1937.

The various exhibits and statements submitted herewith set forth in detail the financial transactions for the period, and show the condition of your affairs as reflected by your records.

I have also examined the records of Mrs. Luther Bach, Treasurer of the Woman's Auxiliary, and those of Mrs. William H. Emrich, Business Manager of "The Quarterly." Exhibits and Statements disclosing the transactions reflected by their records are submitted in a separate report.

I wish to express appreciation of the courtesies and helpful assistance rendered by those in charge during the course of the examination.

Respectfully submitted,
P. WILLETT HAGAN,
Certified Public Accountant

KENTUCKY STATE MEDICAL ASSOCIATION
STATEMENT OF ASSETS
September 1, 1937

Cash—	
Treasurer's Checking Account at National Bank of Cynthiana, Cynthiana	$ 2,794.70
McDowell Fund Account at National Bank of Cynthiana, Cynthiana	1,637.75
Treasurer's Savings Account at National Bank of Cynthiana, Cynthiana	9,801.57
Student Loan Fund Savings Account at National Bank of Cynthiana, Cynthiana	22.82
Total Cash in Bank	$14,256.84
Bonds and Stocks in Possession of Treasurer (Exhibit "B")	3,459.75
Office Furniture, etc. (Exhibit "D")	980.21
Loan to James Blackerby, February 10, 1931 from Student Loan Fund	250.00
Amount due from Cooperative Medical Advertising Bureau for Advertising in July Issue of Journal	242.75
Total Assets	$19,189.55

Reconciliation of Treasurer's Accounts for the period from September 1, 1936 to September 1, 1937.

CHECKING ACCOUNT
NATIONAL BANK OF CYNTHIANA, CYNTHIANA, KY.

Balance agreeing with Secretary's last report (Sept. 1, 1936)....		
Receipts from operation of Association and Journal	$15,145.13	
Amount transferred from McDowell Fund in Repayment of advances	1,662.25	16,807.38
Total to be accounted for		$19,378.38
Disbursements for Kentucky State Medical Association and Journal	$14,920.55	
Advances in connection with McDowell Home and Apothecary Shop	1,663.13	16,583.68
Balance in Treasurer's Checking Account (Sept. 1, 1937)		$ 2,794.70
Reconciliation of above balance with statement receive from the National Bank of Cynthiana:		
Balance in National Bank of Cynthiana, Treasurer's Checking Account		$ 4,892.58
Plus—Error in deposit of November 26, 1935, to be corrected by Bank		.06
Corrected Bank Balance		$ 4,892.64
Plus—Undeposited receipt, Voucher No. 2, transferring balance due from McDowell Fund		191.58
		$5,084.22

Less—Vouchers outstanding, viz.:

Check No. Date Issued To Whom	Amount	
No 130, July 31, 1930— Louis Vissman	$ 20.10	
No. 30, Oct. 31, 1935— P. E. Blackerby, M. D.	1.00	
No. 120, May 31, 1937— Elva Grant	'75.00	
No. 142, July 31, 1937— A. T. McCormack, M. D.	235.00	
No. 143, July 31, 1937— L. H. South, M. D.	90.00	
No. 144, July 31, 1937— J. F. Blackerby	90.00	
No. 145, July 31, 1937— Elva Grant	75.00	
No. 146, July 31, 1937— Elizabeth Conkling	50.00	
No. 147, July 31, 1937— Curtis & Curtis	225.00	
No. 148, July 31, 1937— Judge Rex Logan	50.00	
No. 149, July 31, 1937— Louisville Postmaster	34.64	
No. 150, July 31, 1937— Railway Express Agency	1.82	
No. 151, July 31, 1937— Bush-Krebs Co.	14.25	
No. 152, July 31, 1937— Woman's Auxiliary, Kentucky State Medical Association	13.59	
No. 153, July 31, 1937— Southern Bell Telephone & Telegraph Co.	2.65	
No. 154, July 31, 1937— Times Journal Publishing Co.	410.00	
No. 155, July 31, 1937— Mayme Sullivan	1.34	
No. 156, Aug. 31, 1937— A. T. McCormack, M. D.	135.00	
No 157, Aug. 31, 1937— L. H. South, M. D.	90.00	
No. 158, Aug. 31, 1937— J. F. Blackerby	90.00	
No. 159, Aug. 31, 1937— Elva Grant	75.00	
No. 160, Aug. 31, 1937— Elizabeth Conkling	50.00	
No. 161, Aug. 31, 1937— Times Journal Publishing Co.	450.00	
No. 162, Aug. 31, 1937— Kentucky State Medical Association, Savings Account	10.13	2,289.52
Balance agreeing with Treasurer's Balance		$ 2,794.70

Vouchers Nos. 156 through 162 are in the hands of the Secretary to be delivered.

SAVINGS ACCOUNT
NATIONAL BANK OF CYNTHIANA, CYNTHIANA, KY.

Receipts

Balance agreeing with Secretary's last report, September 1, 1936 ..		$ 980.00
Interest—		
On Louisville Title Mortgage Co. (Rudy) Participation Cert. No. L 7590 ....$	23.34	
On Louisville Title Mortgage Co. (Early) Participation Cert. No. L 7594	23.34	
On H. O. L. Corp. Bonds	30.95	
On balance in Savings Account....	133.43	
Total Interest ....$	211.06	
Dividends—		
On Louisville Title Mortgage Co. Cert. No. 3069 and No. 1701	20.26	
Total Interest and Dividends..		$ 231.32
Principal—		
Partial Payment on Louisville Title Mortgage Co. (Early) Participation Cert. No. L 7594 Bond No. 3-36768-SF	590.25	
Total Receipts from Investments ....$	821.57	
Transfer from McDowell Fund Account in Repayment of Loan for Purchase of Ephraim McDowell Home	8,000.00	
Total Receipts 1936-37......		$ 8,821.57
Balance in Treasurer's Savings Account, September 1, 1937......		$ 9,801.57
Reconciliation of the above balance with statement received from The National Bank of Cynthiana:		
Balance in The National Bank of Cynthiana, Cynthiana, Kentucky, Treasurer's Savings Account . .		$ 8,925.77
Plus: Undeposited Receipts—		
Voucher No. 1 Transferring balance due from McDowell Fund..$	865.67	
Voucher No. 162, Transferring interest deposited in error in Checking Account	10.13	875.80
Savings Fund Balance, as above ..		$ 9,801.57

STUDENT LOAN FUND SAVING'S ACCOUNT
NATIONAL BANK OF CYNTHIANA, CYNTHIANA, KY.

Balance in Student Loan Fund Savings Account September 1, 1937 (as per Secretary's last report, September 1, 1936) agreeing with statement received from the National Bank of Cynthiana....		$ 22.82

EXHIBIT A

RECEIPTS

Checking Account:		
Dues from County Societies (Exhibit "C") ....$	8,631.00	
Income from Journal (Exhibit "G")	6,514.13	
Total receipts from Operation....$	15,145.13	
Transferred from McDowell Fund Account in Repayment of Expenses Advanced from Checking Account in connection with Purchase of McDowell Home and Apothecary Shop ....$	1,662.25	
Total Receipts of Checking Account		$16,807.38
McDowell Fund Account:		
Donations for Purchase of McDowell Home and Apothecary Shop (Exhibit "F-1")		11,300.00
Savings Account:		
Interest and Dividends on Savings and Investments ....$	231.32	
Louisville Title Mortgage Company, Partial Redemption on Bond	590.25	
Total Receipts from Investments...$	821.57	
Transfer from McDowell Fund Account in Repayment of Loan for Purchase of McDowell Home..$	8,000.00	
Total Receipts of Savings Account		8,821.57
Total Receipts and Transfers—All Funds		$36,928.95
Balance on Hand Sept. 1, 1936, Association Operations ....$	2,570.12	
Balance on Hand Sept. 1, 1936, McDowell Fund Account	.88	
Balance on Hand Sept. 1, 1936, Checking Account ....$	2,571.00	
Balance on Hand Sept. 1, 1936, Savings Account	980.00	
Balance on Hand Sept. 1, 1936, Student Loan Found	22.82	
Total Balances, Sept. 1, 1936....		3,573.82
Total Receipts, Transfers, and Beginning Balances — All Funds		$40,502.77

DISBURSEMENTS

Checking Account—		
State Medical Association:		
President's Sundries ....$	5.00	
Secretary's Salary	1,620.00	
Secretary's Stenographer's Salary..	900.00	
Secretary's Sundries	247.75	
Treasurer's Bond and Expense....	12.50	
Officers', Councilors and Committee Expenses	250.02	
Committee on Public Policy Expense	1,110.85	
Attorneys' Fees, Medico-Legal Committee	650.00	
Costs and Expenses, Medico-Legal Committee	30.00	
Stenographer, Medico-Legal Committee	600.00	
Postage and Stamped Envelopes..	537.71	
Association Sundries	100.40	
Eye, Ear, Nose and Throat Section Expense	44.80	
Richmond Meeting Expenses.......	16.10	
Paducah Meeting Expenses........	1,087.14	
Telephone and Telegrams	5.16	
Total State Medical Association		$ 7,217.43
Kentucky Medical Journal:		
Business Manager's Salary ......$	1,080.00	
Business Manager's Sundries	71.50	
Journal Advertisement Collections Paid Women's Auxiliary, Kentucky State Medical Association..	13.59	
Journal Printing	5,831.00	
Journal Postage	200.00	
Journal Express and Freight	29.83	
Journal Sundries	473.75	
Journal Refund on Deposit for Cuts	3.45	
Total Journal		$ 7,703.12
Total Operation Disbursement		$14,920.55
Checking Account Advances—McDowell Home and Apothecary Shop:		
Repayment of Balance Due on Note to National Bank of Cynthiana..$	1,000.00	
Interest on Above to September 26, 1936	21.17	
Sundry Expenses, Home $110.23, Shop $13.39	123.62	
Postage, Home $443.01, Shop $75.33	518.34	
Total Advances McDowell Home and Apothecary Shop		$ 1,663.13
Total Checking Account Disbursements		16,583.68
McDowell Fund Account:		
Transfer to Checking Account in Repayment of Advances for McDowell Home and Apothecary Shop ....$	1,662.25	
Transfer to Savings Account in Repayment of Loan for Purchase of McDowell Home	8,000.00	
Total McDowell Fund Account Disbursements		$ 9,662.25
Total Disbursements and Transfers—All Funds		$ 26,245.93
Balance on Hand this date, Checking Account ....$	2,794.70	
Balance on Hand this date, McDowell Fund Account	1,637.75	
Balance on Hand this date, Savings Account	9,801.57	
Balance on Hand this date, Student Loan Fund	22.82	
Total Balances on Hand this date—All Funds		$14,256.84
Total Disbursements, Transfers, and Ending Balances—All Funds		$40,502.77

EXHIBIT B

BONDS AND STOCKS

September 1, 1937

Bonds:	Par Value
Louisville Title Mortgago Co.—Participation Certificates.	
No. L 7590 Bond No. 40 Rudy	
37330 S F	$ 850.00
37212 S F	850.00
No. L 7593 Bond No. 13 Taylor	

No. L 7594 Bond No. 3 Early 36768 S F	$ 850.00	
Less Partial Payment	590.25	259.75
Home Owners Loan Corporation:		
No. X 173861 A 2-3/4% Bond Due 49/39	$ 500.00	
No. T 703532 B 2-3/4% Bond Due 49/39	100.00	
No. T 703533 C 2-3/4% Bond Due 49/39	100.00	
No. R 164879 K 2-3/4% Bond Due 49-39	50.00	750.00
Total Bonds		$2,709.75
Stocks:		
Louisville Title Mortgage Co. Common Stock Certificate No. 3069—81 shs. and Certificate No. 1701-31-100 shs.		$ 750.00
Total Bonds and Stocks		$ 3,459.75

The above bonds and stocks are held by Marshall McDowell, M. D., Treasurer, Cyuthiana, Kentucky .

Bonds and Stocks as per last report	$ 4,050.00
Less:	
Partial Payment on Louisville Title Mortgage Co. Participation Certificate No. L 7594 Bond No. 3 Early 36768 S F. (Cash Payment deposited in Savings Account)	590.25
Bonds and Stocks, September1,1937	$ 3,459.75

EXHIBIT C

Detailed list of receipts from County Societies from September 1936 to September 1937, compared with incomes of same period last year:

	1936	1937
Adair	$ 30.00	$ 30.00
Allen	35.00	35.00
Anderson	25.00	30.00
Ballard	35.00	30.00
Barren	75.00	100.00
Bath	40.00	30.00
Bell	130.00	131.00
Boone	40.00	20.00
Bourbon	90.00	90.00
Boyd	180.00	180.00
Boyle	75.00	75.00
Bracken-Pendleton	55.00	75.00
Breathitt	30.00	35.00
Breckenridge	40.00	35.00
Bullitt	15.00	20.00
Butler	....	10.00
Caldwell	60.00	60.00
Calloway	65.00	80.00
Campbell-Kenton	455.00	535.00
Carlisle	25.00	30.00
Carroll	20.00	20.00
Carter	40.00	60.00
Casey	30.00	20.00
Christian	145.00	130.00
Clark	85.00	80.00
Clay	30.00	30.00
Clinton	25.00	20.00
Crittenden	25.00	30.00
Cumberland	30.00	20.00
Daviess	180.00	185.00
Elliott	20.00	5.00
Estill	25.00	30.00
Fayette	540.00	535.00
Fleming	40.00	45.00
Floyd	55.00	50.00
Franklin	90.00	90.00
Fulton	50.00	75.00
Gallatin	15.00	10.00
Garrard	25.00	25.00
Grant	60.00	60.00
Graves	120.00	115.00
Grayson	25.00	25.00
Green	30.00	30.00
Greenup	10.00	50.00
Hancock	15.00	15.00
Hardin	95.00	110.00
Harlan	190.00	205.00
Harrison	85.00	80.00
Hart	35.00	30.00
Henderson	70.00	75.00
Henry	20.00	....
Hickman	30.00	30.00
Hopkins	105.00	60.00
Jackson	....	5.00
Jefferson	2,075.00	2,070.00
Jessamine	25.00	45.00
Johnson	45.00	55.00
Knott	10.00	5.00
Knox	55.00	45.00
Larue	25.00	15.00
Laurel	45.00	40.00
Lawrence	40.00	55.00
Lee	20.00	15.00
Leslie	....	....
Letcher	85.00	115.00
Lewis	20.00	15.00
Lincoln	45.00	45.00
Livingston	15.00	55.00
Logan	70.00	65.00
Lyon	25.00	25.00
McCracken	200.00	180.00
McCreary	40.00	40.00
McLean	....	30.00
Madison	135.00	165.00
Magoffin	10.00	5.00
Marion	45.00	35.00
Marshall	50.00	40.00
Martin	....	5.00
Mason	75.00	65.00
Meade	10.00	....
Menifee	10.00	....
Mercer	50.00	50.00
Metcalfe	20.00	30.00
Monroe	10.00	10.00
Montgomery	55.00	50.00
Morgan	15.00	15.00
Muhlenberg	65.00	80.00
Nelson	55.00	60.00
Nicholas	30.00	20.00
Ohio	25.00	40.00
Oldham	10.00	10.00
Owen	15.00	15.00
Owsley	10.00	15.00
Pendleton	30.00	....
Ferry	150.00	145.00
Pike	65.00	125.00
Powell	10.00	....
Pulaski	72.50	80.00
Robertson	10.00	15.00
Rockcastle	35.00	20.00
Rowau	30.00	30.00
Russell	20.00	25.00
Scott	75.00	65.00
Shelby	70.00	65.00
Simpson	45.00	45.00
Spencer	....	....
Taylor	35.00	40.00
Todd	30.00	30.00
Trigg	20.00	5.00
Trimble	20.00	10.00
Union	15.00	5.00
Warren-Edmonson	130.00	115.00
Washington	30.00	35.00
Wayne	5.00	....
Webster	30.00	35.00
Whitley	75.00	80.00
Wolfe	25.00	20.00
Woodford	30.00	35.00
	$8,452.50	$8,631.00

EXHIBIT D

INVOICE OF THE PROPERTY OF THE ASSOCIATION

September 1, 1937

34 Bound Volumes Kentucky Medical Journals, 1903-36		$ 340.00
1 Underwood Typewriter	$ 83.03	
Less 70% Depreciation	58.12	24.91
1 Allen Wales Adding Machine No. 10350	175.00	
Less 30% Depreciation	52.50	122.50
1 12" Oscillating Fan	16.00	
Less 10% Depreciation	1.60	14.40
1,500 No. 5 2-cent envelopes, Kentucky State Medical Association, at $21.96 per M		32.94
8,000 No. 6 3-cent envelopes, Kentucky State Medical Association, at $31.96 per M.		255.68
2,000 No. 8 2-cent envelopes, Kentucky State Medical Association, at $26.88 per M		53.76
2,500 No. 8 3-cent envelopes, Kentucky State Medical Association, at $32.88 per M.		82.20
1,250 No. 9 2-cent envelopes, Kentuckc State Medical Association, at $23.16 per M.		28.95
750 No. 9 3-cent envelopes, Kentucky State Medical Association, at $33.16 per M.		24.87
Total		$ 980.21

OLD PROPERTY

1 Filing Cabinet
(Rubber Stamps
Guide Cards
1 Globe Safe with Fixtures
1 Cabinet for Addressograph, 36 drawers
2 Cabinets for Addressograph 18 drawers each
1 Cabinet for Addressograph, 9 drawers
23 Drawers

(All of the property listed under "Old Property" has been fully depreciated, and very little, if anything, could be realized from the sale of same, should a disposition be made of this property.)

Note: The following property, which was included in the report of last year, was damaged beyond usefulness during the January flood:

1	Cabinet for Medical Journals
1	Cabinet for Addressograph, 36 drawera
31	Drawers
2	Bookcases

EXHIBIT E

Secretary's Monthly Balance Sheet, Agreeing with Books

Sept. 1 Balance on Hand ....$ 2,571.00

	Disbursements	Collections	Balance
Oct. 1	$ 3,187.49	$ 9,715.62	$ 9,099.13
Nov. 1	1,651.44	1,748.55	9,196.24
Dec. 1	1,564.53	695.64	8,327.35
1937			
Jan. 1	1,451.23	803.23	7,679.35
Feb. 1	1,077.57	3,392.33	9,994.11
March 1	1,029.13	1,507.00	10,471.98
April 1	1,328.44	2,144.28	11,287.82
May 1..........	1,036.04	3,596.26	13,848.04
June 1	1,118.48	1,465.22	14,194.78
July 1	956.04	834.34	14,073.08
August 1	1,293.29	542.66	13,322.45
Sept. 1	890.00	......	12,432.45
Totals	$16,583.68	$26,445.13	
Transfers from McDowell Home Account .		1,662.25	
Balance on hand September 1, 1936		2,571.00	$30,678.38
Balance on hand September 1, 1937		2,794.70	
Total expenses as above		16,583.68	
Receipts of McDowell Home Fund Included in Collections		11,300.00	$30,678.38

EXHIBIT F

Collections by Secretary on account of Kentucky State Medical Association, corresponding with checks, deposit slips and receipts filed.

1936		
Oct.	1—To collections to date....	$111.00
Nov.	1—To collections to date.................	125.00
Dec.	1—To collections to date.........	45.00
1937		
Jan.	1—To collections to date.................	15.00
Feb.	1—To collections to date.................	1,857.50
March	1—To collections to date.................	620.00
April	1—To collections to date.................	1,790.00
May	1—To collections to date.................	2,870.00
June	1—To collections to daae.................	975.00
July	1—To collections to date.....	175.00
Aug.	1—To collections to date.................	47.50
	Total for Year.................	$8,631.00

EXHIBIT F-1

Collections by Chairman of Dr. Ephraim McDowell Memorial Association, on account of Ephraim McDowell Property Fund, corresponding with check, deposit slips and receipt filed.

RECEIPTS

Donations (McDowell Home)	$10,030.00	
Donations (Apothecary Shop)....	1,270.00	
Total Donations (Exhibit F—2)...........		$11,300.00

DISBURSEMENTS

Transfer to Savings Account in Repayment of Loan for Purchase of Home	$ 8,000.00	
Transfer to Checking Account in Repayment of Advances for Home and Apothecary Shop	1,662.25	
Total Disbursements		$ 9,662.25
Balance McDowell Fund Account, September 1, 1937		$ 1,637.75

Reconciliation of the Above Balance with Statement Received from the National Bank of Cynthiana:

Balance in the National Bank of Cynthiana, Cynthiana, Kentucky..............$2,695.00

Less—Outstanding Vouchers:

Check No.	Date Issue	To Whom	Amount	
1	August 9, 1937	Savings Account	$865.67	
2	August 9, 1937	Checking Account	191.58	1,057.25

McDowell Home Fund Account Balance, as above ....$ 1,637.75

EXHIBIT F-2

EPHRAIM McDOWELL MEMORIAL FUND HOME AND APOTHECARY SHOP MEMBERS OF KENTUCKY STATE MEDICAL ASSOCIATION CUSTODIANS

$2,800.00

Allen, E. S., Louisville; Armstrong, R. M., Lexington; Bass, A. L., Louisville; Bird, Clarence E., Louisville Brown, O. W., Falmouth; Bullock, W. O., Lexington; Cawood, W. P., Harlan, Floyd, D. S., Danville; Frank, Louisville; Hanes G. S., Louisville; Henderson, E. L., Louisville; Hendon, G. A., Louisville; Henry, M. J., Louisville; Heuser, J. Henry, Louisville; Jones, Preston J., Lexington; Lukins, J. D., Louisville; Owen, W. B., Louisville; Ozment, W. L., Leitchfield; Rankin, Fred W., Lexington; Simpson, Cathiel L., Greenville; Simpson, Virgil E., Louisville; South, John G., Frankfort; South, L. H., Louisville; Stilley, V. A., Benton.

MEMBERS OF KENTUCKY STATE MEDICAL ASSOCIATION DONORS

$3,338.00

Anderson, W. W., Cold Spring; Armstrong, J. Wilbur, Berea; Aud, Guy, Louisville Barnhill, J. E., Owensboro; Bradley, Ernest B., Lexington; Braddus, B. S., Irvine; Carpenter, J. G., Bardstown; Clarke, F. H., Lexington Cull, L. L., Frankfort; Dollar, Dougal M., Louisville; Dowden, C. W., Louisville; Dyer, G. L., Buechel; Erkiletian, D. H., Hopkinsville; Flexner, Morris, Louisville; Frazer, T. Atchison, Marion; Frazier, Harry S., Louisville; Gardner, W. E., Louisville; Garr, Chas. R., Flemingsburg; Gary, W. E., Hopkinsville; Gaupin, Chas. E , Louisville; Glenn, John P., Russellville; Gregory, S. F., Bradfordsville; Green, J. H., Louisville; Hall, Gaylord C., Louisville; Harned, H. S., Elizabethtown, Horine, Emmet F., Louisville; Houston, E. B., Murray; Hunt, Josephine D., Lexington; Keffer, Smithfield, Grayson; Keen, L. O., Balboa, Canal Zone; Kinnard, Virgil C., Lancaster.

Kinsman, J. Murray, Louisville; Leggett, A. E., Louisville; Long, C. F., Elizabethtown; Loveman, Adolph B., Louisville; McBee, K. S., Owenton; McCarty, A. C., Louisville; McClarin, Wm. M., Louisville. McDowell, Marshal, Cynthiana; Marks, S. B. Lexington; Miller, O. P., Louisville; Moore, John Walker, Louisville: Moren, John J., Louisville; Patterson, John, Frankfort; Rankin, George L., Paris; Ridgway, S. H., Shepherdsville; Ritter, Frank, Louisville; Spurling, R. Glenn, Louisville; Sprague, George P., Lexington; Stambaugh, H. G., Ashland, Starr, Silas H., Louisville; Stovall, J. Watts, Grayson; Stroud, J. B., Louisville, Taylor, A. Porter, Lexington; Turner, Paul A., Louisville.

FELLOWS OF THE SOUTHERN SURGICAL ASSOCIATION CUSTODIANS

$2,900.00

Allen, A. W., Boston, Mass.; Bailey, Fred W., St. Louis, Mo.; Barnes, Frank L., Houston, Texas; Blair, V. P., St. Louis, Mo.; Boland. Frank K., Atlanta, Ga.; Campbell, Wilis C.; Memphis, Tenn.; Crawford, W. W.; Hattisburg, Miss.; Crile, George W., Cleveland Ohio; Elkin, W. S., Atlanta, Ga.; Flynn, Chas. W., Dallas, Texas. Gatch, W. D., Indianapolis, Ind.; Gutherie, Donald, Sayre, Pa.; Haggard, W. D., Nashville, Tenn.; Kerr, H. H., Washington, D. C.; Lewis, Dean, Baltimore. Md.: Lower, Wm. E., Cleveland, Ohio; Martin, E. V., St. Louis, Mo.; Miller, Robert T., Jr., Baltimore, Md.; Newell, Edward T., Chattanooga, Tenn.; Novak, Emil, Baltimore, Md.; Payne, Robert Lee, Norfolk, Va.; Scott, A. C.; Temple, Texas; Shands, H. R., Jackson, Miss.; Shipley, Arthur M., Baltimore Md.; Singleton, Albert O., Galveston, Texas; Sullivan, Raymond P., New York City, N. Y. Talley, D. F., Birmingham, Ala.; Toland, C. G., Los Angeles, Calif.; Winslow, Nathan, Baltimore, Md.

MEMBERS OF SOUTHEASTERN SURGICAL CONGRESS

Total $3,240.00

Balfour, D. C., Rochester, Minn.; Block, Wm. T., Memphis, Tenn.; Cannady, John E., Charleston, W. Va.; Cohn, Isadore, New Orleans, La.; Coller, Frederick, Ann Arbor, Mich ; Conwell, H. Earle, Birmingham, Ala.; Estes, W. L., Jr., Bethlehem, Pa.; Horsley, J. Shelton, Richmond, Va.; Hunner, Guy L., Baltimore, Md.; Jackson, R. H., Madison, Wis.; Jones, Daniel Fiske, Boston, Mass.; Kelly, H. A., Baltimore, Md.; King, Joseph, E. J., New York City, N. Y.; Lahey, Frank H., Boston, Mass.; McRae, Floyd W., Atlanta, Ga.; Mason, J. M., Birmingham, Ala.; Mayo, C. H., Rochester, Minn.; Reeves, T. B., Greenville, S. C.; Richardson, E. H., Baltimore, Md.; Sanders, R. L., Memphis, Tenn.; Shallenberger, W. F., Atlanta, Ga.; Trout, Hugh H., Roanoke, Va.; Venable, C. S., San Antonio, Texas; Walters, Waltman, Rochester, Minn.

FELLOWS OF AMERICAN COLLEGE OF PHYSICIANS
CUSTODIANS

$2,000.00

Allenburger, C. A., Columbus, Neb.; Barnett, Charles E., Walloon Lake, Mich.; Brennan, Robert E., New York, N. Y.; Buckner, Hubbard T., Seattle, Wash., Conley, Dudley S., Columbia, Mo.; Crotti, Andre, Columbus, Ohio; Davis, Wm. T., Washington, D. C.; Fort, R. E., Nashville, Tenn.; Hagaman, Frank, Jackson, Miss.; Hellman, Alred M., New York, N. Y.; Hill, J. A., Houston, Texas; Kellogg, John Harvey, Battle Creek, Mich.; Kretchmer, Herman L., Chicago, Ill.; Mendillo, A. J., Now Haven, Conn.; Morley, W. H., Orchard Lake, Mich.; Nichol A. G., Nashville, Tenn.; Pusey, Wm. Allen, Chicago, Ill.; Rozar, A. R., Macon, Ga.: Schlueter, Robert E., St. Louis, Mo.; Wishard, W. N., Indianapolis, Ind.

FELLOWS OF AMERICAN COLLEGE OF SURGEONS
DONORS

Total $3,347.00

Abel, J. F., Waynesville, N. C.; Aird, J. W., Provo, Utah; Arbuckle, M. F., St. Louis, Mo.; Babcock, W. W., Philadelphia, Pa.; Bailey, H. T., Phoenix Ariz.; Baker, David, Miami Beach, Fla.; Beck, Claude S., Cleveland, Ohio; Bennett, G. E., Corry, Pa.; Blakely, Stuart B., Birmingham, N. Y.; Bloss, James R., Huntington, W. Va.; Bourland, J. W., Dallas, Texas; Brown, Marion M., Mexia, Texas; Brunn, Harold, San Francisco, Calif. Butler, E. C., Caldwell, N. J.; Carraway, C. M., Birmingham, Ala.; Cheever, David, Boston, Mass.; Clute, Howard, M., Boston, Mass.; Cofer, Olin S., Atlanta, Ga.; Cordes, F. C., San Francisco; Cron, Roland S., Milwaukee, Wis.; Curfman, Geo. H., Salida, Col.; Cushing Harvey, New Haven, Conn.; Cutler, Elliott C., Boston, Mass.; Davis, A. E., New York City, N. Y.; Davis, Carl B., Chicago, Ill.; Davis, Lincoln, Boston, Mass.; DeLee, J. B., Chicago, Ill.; Denham, R. H., Grand Rapids, Mich.; Dumke, E. R., Ogden, Utah; Duncan, Harry A.; Philadelphia, Pa.; Dunlap, Elbert, Dallas, Texas.

Effler, Louis R., Toledo, Ohio; Fitch, James W., Portsmouth, Ohio; Fleming, S. W., West Palm Beach, Fla.; Follanshoe, George Edw., Cleveland, Ohio; Gatewood, M. A., Chicago, Ill; Grad, Herman, New York City, N. Y.; Gray, George M., Kansas City, Kan.; Greenough, Robert B., Boston, Mass.; Hall, James K., Richmond, Va.; Hartwell, John A., New York City, N. Y.; Henderson, M. S., Rochester, Minn.; Holloway, V. D., Knoxville, Teon.; Holzer, Charles E., Gallipolis, Ohio; Horn, H. W., Wichita, Kan.; Hudson, Othc C., Hempstead, N. Y.; Huggins, R. R., Pittsburgh, Pa; Hunt, Claude J., Kansas City, Mo.; Husted, Eugene, Greenville, Ohio; Jarcho, Julius, New York City, N. Y.; Jones, E. S. Hammond, Ind.; Jones, Walter C., Miami, Fla., Joyce, T. M., Portland, Ore.; Kanabel, Allen B., Chicago, Ill.; Kelly, C. C., Hartford Conn.; Kennedy, James Wm, Philadelphia, Pa.; Kennedy, R. D., Globe, Ariz.; King, James E., Buffalo, N. Y.; Krabulik, E. J., Los Angeles, Calif.; Kretschmer, Herman L., Chicago, Ill.; Kreuscher, Philip H., Chicago, Ill.; Laird, William R., Montgomery, W. Va.; Lear, Maxwell, New Haven, Conn.; Leopold, H. P., Philadelphia, Pa.; Lewis, Bransford, St. Louis, Mo.; Light, Richard U., Kalamazoo, Mich.

Lilienthal, Howard, New York City, N. Y.; Litzenberg, Jennings C., Minneapolis, Minn.; Livingston, W. R., Camarillo, Calif.; Lyday, Russell O., Greensboro, N. C.; Lynch, J. M., New York City, N. Y.; McClellan, Ben R., Xenia, Ohio; McGraw, Arthur B., Detroit, Mich.; McHenry, J. H., New York City, N. Y.; McReynods, John O., Dallas, Texas; Marshall, Victor F., Appleton, Wis., Marx, Rudolph, Los Angeles, Calif.; Mason, Robin S., Memphis, Tenn.; Massou, James C., Rochester, Minn.; Mathe, Chas. P., San Francisco, Calif.; Matthews Harvey B., Brooklyn, N. Y.; Mayo, W. J., Rochester, Minn.; Miller, A. Merrill, Danville, Ill.; Miller, Roy Ben, Parkersburg, W. Va.; Mills, W. M., Topeka, Kan.; Mock, Harry E., Chicago, Ill.; Morton, John J., Rochester, N. Y.; Mount, Walter B., Montclair, N. J.; O'Keefe, J. E., Waterloo, Iowa; Orndoff, B. H., Chicago, Ill.; Parker, Owen W., Ely, Minn.; Parry, Angenette, Huntington, N. Y.; Patterson, D. C., Bridgeport, Conn.; Payne, Marshall J., Staunton, Va.; Pontius, S G., Lancaster Pa., Fotter, Alfred H., Springfield, Ohio; Price, R. M., Sweetwater Tenn.; Quain, E. P., Bismark, N. D.; Rawls, J. E., Suffolk, Va; Rawls, J. L., Norfolk, Va.; Rardin Joseph S., Portsmouth, Ohio.

Ravdin, I. S., Philadelphia, Pa.; Renshaw, Kinsley, Toledo, Ohio; Roberts, C. W., Atlanta, Ga.; Robinson, M. R., New York City, N. Y.; Roeder, Clyde A., Los Angeles, Calif.; Sellers, Thomas Benton, New Orleans, La.; Simmons, R. O., Alexandria, La.; Simpson, John K., Pittsburgh, Pa.; Slemons, J. M., Los Angeles, Calif.; Smith, Dudley, Oakland, Calif.; Smith, George V., Brookline, Mass.; Sommer, George N. J., Trenton, N. J.; Sommer, George N. J., Jr., Trenton, N. J.; Stein, Irving F., Chicago, Ill., Steinke, Carl R., Akron, Ohio: Wagner, W. A., New Orleans, La.; Warren, A. W., Canton, Ohio; Waterworth, S. J., Clearfield, Pa.; Weber, George T., Olney, Ill.: West, Hugh, Deland. Fla.; Whitaker, F. J., Spokane, Wash.; Willis, Park Weed, Seattle, Wash.; Work, J. A., Barre, Vt.; Young, Hugh H., Baltimore. Md.

FELLOWS OF AMERICAN COLLEGE OF PHYSICIANS
CUSTODIANS

$600.00

Arneill, James Rae, Denver, Col.; Clendening, Logan, Kansas City, Mo.; Howard, R. M., Oklahoma City, Okla.; man, Emanuel, New York City, N. Y.; Plummer, H. S., Rochester, Minn.; Rucker, M. Pierce, Richmond, Va.

FELLOWS OF AMERICAN COLLEGE OF PHYSICIANS
DONORS

Total $865.00

Aaron, A. H., Buffalo, N. Y.; Benjamin, Julian E. Cincinnati, Ohio; Cocke, Chas. J., Ashville, N. C.; Craig, S. D., Winston-Salem, N C.; Culbertson, Carey, Chicago. Ill.; Dunham, Kennon, Cincinnati, Ohio; Einhorn, Max, New York City, N. Y.; Greiwe, John E., Cincinnati, Ohio; Hammon, Louis, Baltimore, Md.; Heyd, Charles G.; New York City, N. Y.; Hruby, A. J., Chicago, Ill.; Ireland M. W., Washington, D. C.; Knighton, J. E, Shreveport, La; Krumbharr, E. B., Philadelphia, Pa.; McMahan, Alphonse, St. Louis, Mo.; Miller, Joseph L., Chicago, Ill., Parsons, Lawrence, Reno, Nev.; Peers, Robert A., Colfax, Calif.; Rafsky, Henry A., New York City, N. Y.; Shaw, Milton, Lansing, Mich.; Sherrill, Coite, L., Statesville, N. C.; Smith, Elsworth S., St. Louis, Mo.; Enure, Henry, Los Angeles, Calif.; Stapleton, William J., Jr., Detroit, Mich.; West Olin, Chicago, Ill.

MEMBERS OF SOUTHEASTERN SURGICAL CONGRESS
CUSTODIANS

$100.00

Robinson, B. F., Lexington, Ky.

MEMBERS OF SOUTHEASTERN SURGICAL CONGRESS
DONORS

$180.00

Campbell, Willis C, Memphis, Tenn.; Coolidge, L. E., Greenville, Tenn.; Hunt, Kenneth S., Griffin, Ga.; Matthews, O. H., Atlanta, Ga; Penn, Jarrell, Knoxville, Tenn.; Ralls, A. W., Gadsden, Ala.; Rehfeldt, F. E., Jackson, Miss.; Turlington, Lee F., Birmingham, Ala.

MISCELLANEOUS
CUSTODIANS

$200.00

Missouri State Medical Society, St. Louis, Mo.; Pusey, Brown William, Chicago, Ill.

MISCELLANEOUS
DONORS

Total $330.00

Mosby, C. V., St Louis, Mo.; St. Asaph Chapter, Daughters of the American Revolution, Danville, Ky.; Thurston, R. C. Ballard, Louisville, Ky.; Wiess, Mrs. P. H., Beaumont, Texas.

LIST OF CONTRIBUTORS FOR PREVIOUS YEARS:

1935		
Dec. 27	J. R. Cowan, M. D.	$ 100.00
	Irvin Abell, M D.	100.00
	C. C. Howard, M. D.	100.00
	Frank Boyd, M. D.	100.00
	R. Emerson Smith, M. D.	100.00
	Judge Samuel M. Wilson	100.00
	A. T. McCormack, M. D.	100.00
	H. G. Reynolds, M. D.	100.00
	John H. Blackburn, M. D.	100.00
1936		
Jan. 9	Charles A. Vance, M. D.	100.00
	Stewart R. Roberts, M. D.	10.88
Apr. 23	W. A. Weldon, M. D.	50.00
	Total	$1,060.88

GRAND TOTAL $11,300.00

RECAPITULATION OF DONATIONS
HOME AND APOTHECARY SHOP

	Custodian	Donors	Total
Members of Kentucky State Medical Association	$2,800.00	$ 538.00	$3,338.00
Fellows of American College of Surgeons	2,900.00	340.00	3,240.00
Fellows of American College of Surgeons	2,000 00	1,347 00	3,347.00
Fellows of American College of Physicians	600.00	265 00	865.00
Members of Southeastern Surgical Congress	100.00	80.00	180.00
Miscellaneous	200.00	130.00	330.00
	$8,600 00	$2,700.00	$11,300.00

Grand Total $11,300.00

EXHIBIT F-3

McDOWELL PROPERTY FUND

Receipts and Expenditures, January 13, 1936 through June 30, 1937

EPHRAIM McDOWELL HOME

Donations		$11,090.88	
Expenditures:			
Purchase of Property	$10,000.00		
Interest on Notes	81.17		
Incidental Items for Restoration of Home	50.00		
Postage	443.01		
Office Expense	60.23		
Total Expenditures		10,634.41	
Balance			$ 456.47

DOCTOR'S SHOP

Donations		$ 1,270.00	
Expenditures:			
Postage	$ 75.33		
Office and Other Expense	13.39		
Total Expenditures		88.72	
Balance			$ 1,181.28
Total Balance			$ 1,637.75

EXHIBIT G

Collections by Editor on account of the Journal, corresponding with receipts transferred to the Treasurer as evidenced by checks, deposit slips and receipts on file.

1936	
September	$1,009.62
October	793.55
November	520.64
December	778.23
1937	
January	579.83
February	472.00
March	354.28
April	536.26
May	415.22
June	559.34
July	495.16
Totals	$6,514.13

EXHIBIT H

Total membership by Councilor Districts and by Counties for 1937 as compared to that of 1936.

First District—V. A. Stilley, Benton, Councilor

	1936	1937
Ballard	7	6
Caldwell	11	12
Calloway	13	16
Carlisle	5	6
Crittenden	5	6
Fulton	9	15
Graves	24	23
Hickman	6	6
Livingston	2	8
Lyon	5	5
Marshall	9	9
McCracken	40	36
Trigg	4	1
	140	149

Second District—D. M. Griffith, Owensboro, Councilor

Daviess	35	37
Hanoock	3	3
Henderson	14	15
Hopkins	21	12
McLean	—	6
Muhlenberg	10	13
Ohio	5	8
Union	3	1
Webster	6	7
	97	102

Third District—C. C. Turner, Glasgow, Councilor

Allen	7	7
Barren	14	19
Butler	1	2
Christian	28	26
Cumberland	6	4
Logan	14	13
Metcalfe	4	6
Monroe	2	1
Simpson	9	9
Todd	6	6
Warren-Edmonson	25	23
	116	116

Fourth District—J. I. Greenwell, New Haven, Councilor

Breckinridge	8	7
Bullitt	3	4
Grayson	5	5
Hardin	19	22
Hart	7	6
Larue	5	3
Meade	2	—
Nelson	9	11
Spencer	—	—
	58	58

Fifth District—J. B. Lukins, Louisville, Councilor

Carroll	4	4
Franklin	18	17
Gallatin	3	2
Henry	4	—
Jefferson	387	386
Oldham	1	2
Owen	3	3
Shelby	14	13
Trimble	3	3
	437	430

Sixth District—W. B. Atkinson, Campbellsville, Councilor

Adair	6	6
Anderson	5	6
Boyle	15	15
Green	6	6
Marion	9	7
Mercer	10	10
Taylor	7	8
Washington	6	7
	64	65

Seventh District—Virgil Kinnaird, Lancaster, Councilor

Casey	5	4
Clinton	5	4
Garrard	5	5
Lincoln	9	9
McCreary	8	8
Pulaski	14	16
Rockcastle	6	4
Russell	4	4
Wayne	—	—
	56	54

Eighth District—L. C. Hafer, Covington, Councilor

Boone	8	4
Bracken-Pendleton	10	15
Campbell-Kenton	82	93
Fleming	8	9
Grant	12	12
Harrison	17	16
Mason	15	11
Nicholas	6	4
Pendleton	6	—
Robertson	2	3
	166	167

Ninth District—S. C. Smith, Ashland, Councilor

Boyd	36	36
Carter	8	11
Elliott	4	1
Floyd	11	9
Greenup	2	10
Johnson	9	11
Lawrence	7	11
Lewis	4	3
Magoffin	1	1
Martin	—	1
Pike	13	22
	95	116

Tenth District—C. A. Vance, Lexington, Councilor

Bath	7	6
Bourbon	16	18
Breathitt	6	7
Clark	17	16
Estill	5	6
Fayette	105	105
Jessamine	5	7
Lee	4	3
Madison	26	33
Menifee	1	—
Montgomery	10	9
Morgan	3	3
Owsley	2	2
Powell	2	—
Rowan	6	6
Scott	14	12
Wolfe	5	4
Woodford	4	7
	238	244

Eleventh District—H. K. Buttermore, Liggett, Councilor

Bell	25	24
Clay	6	6
Harlan	37	41
Jackson	—	1
Knott	2	1
Knox	11	9
Laurel	8	8
Leslie	—	—
Letcher	16	23
Perry	29	29
Whitley	15	16
	149	158

EXHIBIT I

Detailed Statement of Disbursements of Marshall McDowell, M. D., Treasurer, Kentucky State Medical Association, each made on a Voucher Check signed by J. D. Northcutt, M. D., President, A. T. McCormack, M. D., Secretary, and himself, from September 1, 1936 to September 1, 1937.

1936			
Sept. 22	—Voucher Check No. 1		$ 439.50
	A. T. McCORMACK, M. D., Louisville		
	To reimbursement for postage for McDowell Memorial letters	439.50	
	Approved by Council and Ordered Paid by House of Delegates.		
Sept. 28	—Voucher No. 1a		1,000.00
	NATIONAL BANK OF CYNTHIANA, Cynthiana		
	To balance in full on $2,000.00 Note on Ephraim McDowell Property	1,000.00	
	Approved by Council and Ordered Paid by House of Delegates.		
Sept. 28	—Voucher Check No. 1b		21.17
	NATIONAL BANK OF CYNTHIANA, Cynthiana		
	To interest on balance of $1,000.00 on $2,000.00 Note up to 9-26-36	21.17	
	Approved by Council and Ordered Paid by House of Delegates.		
Sept. 30	—Voucher Check No. 2		135.00
	A. T. McCORMACK, M. D., Louisville		
	To September Salary, Secretary	135.00	
	Approved by Council and Ordered Paid by House of Delegates.		
Sept. 30	—Voucher Check No. 3		90.00
	L. H. SOUTH, M. D., Louisville		
	To September Salary, Business Manager	90.00	
	Approved by Council and Ordered Paid by House of Delegates.		
Sept. 30	—Voucher Check No. 4		90.00
	J. F. BLACKERBY, Louisville		
	To September services rendered Committee on Public Policy	90.00	
	Approved by Council and Ordered Paid by House of Delegates.		
Sept. 30	—Voucher Check No. 5		75.00
	ELVA GRANT, Louisville		
	To September Salary, Bookkeeper	75.00	
	Approved by Council and Ordered Paid by House of Delegates.		
Sept. 30	—Voucher Check No. 6		50.00
	ELIZABETH CONKLING, Louisville		
	To September Salary, Stenographer for Medico-Legal Committee	50.00	
	Approved by Council and Ordered Paid by House of Delegates.		
Sept. 30	—Voucher Check No. 7		50.00
	HAGAN & HEIMERDINGER, Louisville		
	To auditing accounts of Marshall McDowell, M. D., Treasurer, and A. T. McCormack, M. D., Secretary, Kentucky State Medical Association, and Mrs. Edna R. Kreiger, Treasurer, Quarterly, for the period from Sept. 1, 1935 to August 31, 1936	50.00	
	Approved by Council and Ordered Paid by House of Delegates.		
Sept. 30	—Voucher No. 8		44.80
	HARRY S. SMITH, Louisville		
	To reporting meeting of Eye, Ear, Nose and Throat Section, Kentucky State Medical Association, Louisville, May 21-22, 1936, including transcript of minutes (abridged), discussions, etc.	44.80	
	Approved by Council and Ordered Paid by House of Delegates.		
Sept. 30	—Voucher Check No. 9		75.00
	DICKSON, BRADLEY & BLANTON, Paris		
	To professional services rendered in case of Shields vs. McClure, Bourbon Circuit Court	75.00	
	Approved by Council and Ordered Paid by House of Delegates.		
Sept. 30	—Voucher Check No. 10		50.00
	JUDGE REX LOGAN, P. M., Bowling Green		
	To postage for Journal	50.00	
	Approved by Council and Ordered Paid by House of Delegates.		
Sept. 30	—Voucher Check No. 11		34.70
	COURIER-JOURNAL JOB PRINTING CO., Louisville		
	To 2500 inserts of J. D. Northcutt, M. D. for annual number	34.10	
	To postage and insurance	.60	
		34.70	
	Approved by Council and Ordered Paid by House of Delegates.		
Sept. 30	—Voucher Check No. 12		42.32
	F. & W. MANUFACTURING CO., East Providence, R. I.		
	To 300 bangles lettering Paducah 1936	42.00	
	To P. P. insured mail	.32	
		42.32	
	Approved by Council and Ordered Paid by House of Delegates.		
Sept. 30	—Voucher Check No. 13		16.02
	BUSH-KREBS CO., Louisville		
	To 1 Sq. Copper H. T. Illustration of Lung Abscess	3.34	
	To 2 Sq. Copper H. T. Portraits of Men	8.18	
	To 1 Sq. Copper H. T. Portrait of Man	4.50	
		16.02	
	Approved by Council and Ordered Paid by House of Delegates.		
Sept. 30	—Voucher Check No. 14		10.83
	LOUISVILLE POSTMASTER, Louisville		
	To postage for July	6.83	
	To postage for August	4.00	
		10.83	
	Approved by Council and Ordered Paid by House of Delegates.		
Sept. 30	—Voucher Check No. 15		57.23
	PREMIER PAPER COMPANY, Louisville		
	To 15 M 24 lb. 6 3-4 White Premier Regular Envelopes	14.70	
	To 15 M 24 lb. No. 9 White Premier Regular Envelopes	24.45	
	To 16 M 8 1-2 x 11 20 lb. White K. V. P. Bond	18.08	
		57.23	
	(For McDowell Memorial Committee)		
	Approved by Council and Ordered Paid by House of Delegates.		

Sept. 30—Voucher Check No. 16			4.65
RAILWAY EXPRESS AGENCY, Louisville			
To express from Bowling Green, 7-3, 6 & 7 and 8-5 & 19-36		2.33	
To express to Bowling Green, 7-16 and 8-11 & 14-36		2.32	
		4.65	
Approved by Council and Ordered Paid by House of Delegates.			
Sept. 30—Voucher Check No. 17			$ 1.80
SOUTHERN BELL TELEPHONE & TELEGRAPH CO., Louisville			
To long distance calls to Bowling Green, 7-18 & 20-36, for Journal		1.80	
Approved by Council and Ordered Paid by House of Delegates.			
Sept. 30—Voucher Check No. 18			5.00
H. HESSE, Louisville			
To 1 original copy of Dr. Chipley		5.00	
Approved by Council and Ordered Paid by House of Delegates.			
Sept. 30—Voucher Check No. 19			85.00
THE TIMES-JOURNAL PUBLISHING CO., Bowling Green			
To 200 Applications for Space		7.00	
To 200 Commercial Exhibit Forms		5.50	
To 600 Programs for annual meeting at Paducah		72.50	
		85.00	
Approved by Council and Ordered Paid by House of Delegates.			
Sept. 30—Voucher Check No. 20			717.60
THE TIMES-JOURNAL PUBLISHING CO., Bowling Green			
To 2500 September issue—76 pages	559.00		
To inserts	5.00		
To inserts scored	8.50		
To setting audit in 6 pt. tabular	45.00		
To envelopes	15.00		
To printing envelopes	2.30		
	634.80		
Less credit by check No. 180 dated 8-31-36	450.00	184.80	
To 2100 October issue—76 pages	507.00		
To inserts scored	8.50		
To envelopes	15.00		
To printing envelopes	2.30	532.80	
		717.60	
Approved by Council and Ordered Paid by House of Delegates.			
Sept. 30—Voucher Check No. 21			91.87
CHARLES A. VANCE, M. D., Lexington			
To expense as Councilor, 10th District		91.87	
Approved by Council and Ordered Paid by House of Delegates.			
Oct. 31—Voucher Check No. 22			183.55
A. T. McCORMACK, M. D., Louisville			
To October salary, Secretary		135.00	
To expense		48.55	
		183.55	
Oct. 31—Voucher Check No. 23			123.00
L. H. SOUTH, M. D.' Louisville			
To October salary, Business Manager		90.00	
To State Meeting expense		33.00	
		123.00	
Oct. 31—Voucher Check No. 24			120.85
J. F. BLACKERBY, Louisville			
To October services rendered Committee on Public Policy		90.00	
To State Meeting expense		30.85	
		120.85	
Oct. 31—Voucher Check No. 25			121.35
ELVA GRANT, Louisville			
To October salary, Bookkeeper		75.00	
To Honorarium		10.00	
To State Meeting expense		36.35	
		121.35	
Oct. 31—Voucher Check No. 26			50.00
ELIZABETH CONKLING, Louisville			
To October salary, Stenographer for Medico-Legal Committee		50.00	
Oct. 31—Voucher Check No. 27			18.35
RUTH FLAGG, Louisville			
To Honorarium		10.00	
To State Meeting expense		8.35	
		18.35	
Oct. 31—Voucher Check No. 28			16.90
AGNES BLAIR, Louisville			
To Honorarium		10.00	
To State Meeting Expense		6.90	
		16.90	
Oct. 31—Voucher Check No. 29			55.22
MAYME SULLIVAN, Louisville			
To Honorarium		10.00	
To State Meeting expense		31.40	
To reimbursement for State Meeting expense of Otho Haskins		13.52	
To reimbursement for telegram to Cynthiana regarding Association		.30	
		55.22	
Oct. 31—Voucher Check No. 30			18.00
MABELLE YOUNG, Louisville			
To Honorarium		10.00	
To State Meeting expense		8.00	
		18.00	
Oct. 31—Voucher Check No. 30A			10.00
OTHO HASKINS, Louisville			
To Honorarium		10.00	

Oct. 31—Voucher Check No. 31		5.00
D. M. GRIFFITH, M. D., Owensboro		
To expense as Councilor, 2nd District	5.00	
Oct. 31—Voucher Check No. 32		13.35
W. B. ATKINSON, M. D., Campbellsville		
To expense as Councilor, 6th District	13.35	
Oct. 31—Voucher Check No. 33		45.00
V. A. STILLEY, M. D., Benton		
To expense as Councilor, 1st District	45.00	
Oct. 31—Voucher Check No. 34		30.00
JAMES E. FAULLIN, M. D., Atlanta, Ga.		
To expense as Guest Speaker at State Meeting	30.00	
Oct. 31—Voucher Check No. 35		8.00
JNO. W. KELLY, Louisville		
To State Meeting expense	8.00	
Oct. 31—Voucher Check No. 36		87.75
THE WOMAN'S CLUB, Paducah		
To Woman's Auxiliary luncheon, 117 plates at 75c each	87.75	
Oct. 31—Voucher Check No. 37		165.04
HOTEL IRVIN COBB, Paducah		
To rooms, meals and telegrams for the following: J. H. J. Upham, M. D., A. M. Mitchell, M. D., J. E. Paullin, M. D., A. T. McCormack, M. D., Mrs. C. O. Packard, Agnes Blair, Mabelle Young, Elva V. Grant, Ruth Flagg, Mayme Sullivan, J. J. Blackerby, John W. Kelly	165.04	
Oct. 31—Voucher Check No. 38		1.75
SOUTHERN BELL TELEPHONE & TELEGRAPH CO., Louisville		
To long distance call to Bowling Green regarding Journal, 7-30	.90	
To long distance call to Cynthiana regarding Association, 8-5	.85	
	1.75	
Oct. 31—Voucher Check No. 39		1.58
WESTERN UNION TELEGRAPH CO., Louisville		
To telegram to St. Louis regarding Association, 9-23	.44	
To telegram to Atlanta regarding State Meeting, 9-24	.72	
To telegram to Columbus regarding State Meeting, 9-29	.42	
	1.58	
Oct. 31—Voucher Check No. 40		21.43
BUSH-KREBS CO., Louisville		
To 5 cuts for Oration in Surgery	21.43	
Oct. 31—Voucher Check No. 41		2.25
E. H. ROEDERER, Louisville		
To 15 ribbons stamped in gold—Vice-President	2.25	
Oct. 31—Voucher Check No. 42		4.65
RAILWAY EXPRESS AGENCY, Louisville		
To express from Bowling Green, 9-2, 5, 12, 25 and 28-36	3.58	
To express to Bowling Green, 9-15-36, for Journal	1.07	
	4.65	
Oct. 31—Voucher Check No. 43		18.62
LOUISVILLE POSTMASTER, Louisville		
To postage for September	18.62	
Oct. 31—Voucher Check No. 44		78.00
THE TIMES-JOURNAL PUBLISHING CO., Bowling Green		
To 500 Letterheads and 500 Envelopes—Dr. J. D. Northcutt, President	5.00	
To 300 Letterheads and 300 Envelopes—Dr. H. G. Reynolds, President-Elect	4.00	
To 500 Letterheads and 500 Envelopes—Dr. J. B. Lukins, Councilor, 5th Dist.	5.00	
To 300 Letterheads and 300 Envelopes—Dr. L. C. Hafer, Councilor, 8th Dist.	4.00	
To 500 Letterheads and 500 Envelopes—Mr. Curtis, Medico-Legal Committee	5.00	
To 10 M Letterheads, 10 M Second Sheets, Secretary	55.00	
	78.00	
Oct. 31—Voucher Check No. 45		451.80
THE TIMES-JOURNAL PUBLISHING CO., Bowling Green		
To 2100 November issue—64 pages	426.00	
To Inserts Scored	8.50	
To Envelopes	15.00	
To Printing Envelopes	2.30	
	451.80	
Nov. 30—Voucher Check No. 46		135.00
A. T. McCORMACK, M. D., Louisville		
To November salary, Secretary	135.00	
Nov. 30—Voucher Check No. 47		90.00
L. H. SOUTH, M. D., Louisville		
To November salary, Business Manager	90.00	
Nov. 30—Voucher Check No. 48		90.00
J. F. BLACKERBY, Louisville		
To November services rendered Committee on Public Policy	90.00	
Nov. 30—Voucher Check No. 49		75.00
ELVA GRANT, Louisville		
To November salary, Bookkeeper	75.00	
Nov. 30—Voucher Check No. 50		50.00
ELIZABETH CONKLING, Louisville		
To November salary, Stenographer for Medico-Legal Committee	50.00	
Nov. 30—Voucher Check No. 51		2.65
V. A. STILLEY, M. D., Benton		
To expense as Councilor, 1st District	2.65	
Nov. 30—Voucher Check No. 52		205.00
CURTIS & CURTIS, Attorneys, Louisville		
To services rendered in case G. E. Smith vs. Stokes Hospital and Dr. Edgar Stokes	200.00	
To expense on trip to Tennessee	5.00	
	205.00	
Nov. 30—Voucher Check No. 53		12.50
S. C. COOKE, Bowling Green		
To American Surety Bond No. 129554-D for Marshall McDowell, M. D., Treasurer	12.50	

Nov. 30—Voucher Check No. 54		203.72
LOUISVILLE POSTMASTER, Louisville		
To 2 M No. 5 2c Stamped Envelopes at $21.96 per M	43.92	
To 5 M No. 5 3c Stamped Envelopes at $31.96 per M	159.80	
	203.72	
Nov. 30—Voucher Check No. 55		3.15
SOUTHERN BELL TELEPHONE & TELEGRAPH CO., Louisville		
To long distance calls, 8-28 and 9-14-36 regarding State meeting, Paducah	3.15	
Nov. 30—Voucher Check No. 56		3.00
BRAKMEIER BROS., Louisville		
To 1 signature stamp and cut	3.00	
Nov. 30—Voucher Check No. 57		2.44
RAILWAY EXPRESS AGENCY, Louisville		
To express from Bowling Green, 10-3, 10, 15 and 24-36 for Journal	1.44	
To express to Bowling Green, 10-15-36 for Journal	1.00	
	2.44	
Nov. 30—Voucher Check No. 58		7.27
LOUISVILLE POSTMASTER, Louisville		
To postage for October	7.27	
Nov. 30—Voucher Check No. 59		7.50
MEFFERT EQUIPMENT CO., Louisville		
To 2 No. 53 Legal Steel Document Cases	6.00	
T "10 1-5 cut Legal Size Metal Tab Blank Guides	1.50	
	7.50	
Nov. 30—Voucher Check No. 60		677.30
THE TIMES-JOURNAL PUBLISHING CO., Bowling Green		
To 2200 December Issue—96 pages	660.00	
To Envelopes	15.00	
To Printing Envelopes	2.30	
	677.30	
Dec. 23—Voucher Check No. 61		179.20
A. T. McCORMACK, M. D., Louisville		
To December salary, Secretary	135.00	
To expense	44.20	
	179.20	
Dec. 23—Voucher Check No. 62		100.55
L. H. SOUTH, M. D., Louisville		
To December salary, Business Manager	90.00	
To expense to Danville regarding McDowell Home, Nov. 6th	10.55	
	100.55	
Dec. 23—Voucher Check No. 63		90.00
J. F. BLACKERBY, Louisville		
To December services rendered Committee on Public Policy	90.00	
Dec. 23—Voucher Check No. 64		75.00
ELVA GRANT, Louisville		
To December salary, Bookkeeper	75.00	
Dec. 23—Voucher Check No. 65		50.00
ELIZABETH CONKLING, Louisville		
To December salary, Stenographer for Medico-Legal Committee	50.00	
Dec. 23—Voucher Check No. 66		50.00
JUDGE REX LOGAN, P. M., Bowling Green		
To postage for Journal	50.00	
Dec. 23—Voucher Check No. 67		7.36
LOUISVILLE POSTMASTER, Louisville		
To postage for November	7.36	
Dec. 23—Voucher Check No. 68		1.15
W. K. STEWART COMPANY, Louisville		
To 1 frame	1.15	
Dec. 23—Voucher Check No. 69		497.97
THE MASTER REPORTING COMPANY, INC., New York		
To reporting Opening, Scientific and House of Delegates Sessions of the Paducah meeting, October 5-8, 1936	404.17	
To traveling expenses	89.74	
To postage and express charges	4.06	
	497.97	
Dec. 23—Voucher Check No. 70		400.00
THE TIMES-JOURNAL PUBLISHING CO., Bowling Green		
To account of January Journal	400.00	
1937		
Jan. 30—Voucher Check No. 71		135.00
A. T. McCORMACK, M. D., Louisville		
To January salary, Secretary	135.00	
Jan. 30—Voucher Check No. 72		139.43
L. H. SOUTH, M. D., Louisville		
To January salary, Business Manager	90.00	
To reimbursement for postage for letters regarding contributions to McDowell Fund—Apothecary Shop	40.00	
To expenses to Danville regarding McDowell Fund—Apothecary Shop	9.43	
	139.43	
Jan. 30—Voucher Check No. 73		90.00
J. F. BLACKERBY, Louisville		
To January services rendered Committee on Public Policy	90.00	
Jan. 30—Voucher Check No. 74		75.00
ELVA GRANT, Louisville		
To January salary, Bookkeeper	75.00	
Jan. 30—Voucher Check No. 75		50.00
ELIZABETH CONKLING, Louisville		
To January salary, Stenographer for Medico-Legal Committee	50.00	
Jan. 30—Voucher Check No. 76		20.00
H. C. T. RICHMOND, M. D., Louisville		
To expenses to Harlan as medical defense witness in case Nannie Carter, Plaintiff vs. Harlan Hospital Association, Defendant	20.00	
Jan. 30—Voucher Check No. 77		9.25
AMERICAN MEDICAL ASSOCIATION, Chicago		
To 500 copies Health Examination Blanks	3.75	
To 1 copy Medico-Legal Cases 1931-1935	5.50	
	9.25	

Jan. 30—Voucher Check No. 78			3.96
STATE DEPARTMENT OF HEALTH, Louisville			
To 3600 sheets for letters—20 lb. K. V. F. Bond		3.96	
(For McDowell Fund—Apothecary Shop)			
Jan. 30—Voucher Check No. 79			11.66
PREMIER PAPER COMPANY, Louisville			
To 4 M No. 9 Sub. 24 lb. Premier Regular Envelopes		7.00	
To 2 M No. 6 3-4 Sub. 24 lb. Premier Regular Envelopes		2.66	
To 1 M No. 9 Sub. 24 lb. Premier Regular Envelopes (For McDowell Fund)		2.00	
		11.66	
Jan. 30—Voucher Check No. 80			20.97
MAYME SULLIVAN, Louisville			
To reimbursement for the following:			
Telegrams, 10-1 and 11-7-36, for Association		.72	
Stamps for McDowell Memorial letter—Apothecary Shop		20.25	
		20.97	
Jan. 30—Voucher Check No. 81			4.66
RAILWAY EXPRESS AGENCY, Louisville			
To express from Bowling Green, 11-2, 3, 11 and 12-11-36		2.69	
To express to Bowling Green, 11-16, 23 and 12-15-36		1.91	
		4.66	
Jan. 30—Voucher Check No. 82			2.85
BUSH-KREBS CO., Louisville			
To 1 ZE of diagram		2.85	
Jan. 30—Voucher Check No. 83			12.69
STATE DEPARTMENT OF HEALTH, Louisville			
To postage for December		10.65	
To postage for December (McDowell Memorial Fund)		2.04	
		12.69	
Jan. 30—Voucher Check No. 84			486.60
THE TIMES-JOURNAL PUBLISHING CO., Bowling Green			
To 2100 January issue—64 pages		426.00	
To Envelopes		15.00	
To Printing Envelopes		2.30	
		443.30	
Rebate on 4 pages overcharged on December issue		26.00	
		417.30	
Less credit by Check No. 70 dated 12-23-36		400.00	
Balance due		17.30	
To 2150 February issue—68 pages	459.00		
To Inserts Scored	8.00		
To Printing Envelopes	2.30	469.30	
		486.60	
Jan. 30—Voucher Check No. 85			15.50
THE TIMES-JOURNAL PUBLISHING CO., Bowling Green			
To 300 Letterheads and Envelopes—Dr. C. C. Turner, Councilor, 3rd District		4.00	
To 300 Letterheads and Envelopes—Dr. J. I. Greenwell, Councilor 4th District		4.00	
To 750 Letterheads and Envelopes—Dr. C. A. Vance, Chairman of Council		7.50	
		15.50	
Feb. 27—Voucher Check No. 86			135.00
A. T. McCORMACK, M. D., Louisville			
To February salary, Secretary		135.00	
Feb. 27—Voucher Check No. 87			90.00
L. H. SOUTH, M. D., Louisville			
To February salary, Business Manager		90.00	
Feb. 27—Voucher Check No. 88			90.00
J. F. BLACKERBY, Louisville			
To February services rendered Committee on Public Policy		90.00	
Feb. 27—Voucher Check No. 89			75.00
ELVA GRANT, Louisville			
To February salary, Bookkeeper		75.00	
Feb. 27—Voucher Check No. 90			50.00
ELIZABETH CONKLING, Louisville			
To February salary, Stenographer for Medico-Legal Committee		50.00	
Feb. 27—Voucher Check No. 91			1.50
MAYME SULLIVAN, Louisville			
To reimbursement for the following:			
Long distance call to Bowling Green, 12-26-36		.70	
Cement for films, 1-19-37		.80	
		1.50	
Feb. 27—Voucher Check No. 92			1.52
RAILWAY EXPRESS AGENCY, Louisville			
To express from Bowling Green, 1-11-37		.50	
To express to Bowling Green, 1-16-37		1.02	
		1.52	
Feb. 27—Voucher Check No. 93			20.11
STATE DEPARTMENT OF HEALTH, Louisville			
To postage for January		3.56	
To postage for January (McDowell Memorial Fund—Home	1.47		
To postage for January (McDowell Memorial Fund—Apoth. Shop	15.08	16.55	
		20.11	
Feb. 27—Voucher Check No. 94			566.00
THE TIMES-JOURNAL PUBLISHING CO., Bowling Green			
To 2400 March issue—76 pages		546.00	
To Envelopes		16.50	
To Printing Envelopes		3.50	
		566.00	
Mar. 31—Voucher Check No. 95			135.00
A. T. McCORMACK, M. D., Louisville			
To March salary, Secretary		135.00	
Mar. 31—Voucher Check No. 96			90.00
L. H. SOUTH, M. D., Louisville			
To March salary, Business Manager		90.00	

Mar. 31—Voucher Check No. 97		90.00
J. F. BLACKERBY, Louisville		
To March services rendered Committee on Public Policy	90.00	
Mar. 31—Voucher Check No. 98		75.00
ELVA GRANT, Louisville		
To March salary, Bookkeeper	75.00	
Mar. 31—Voucher Check No. 99		50.00
ELIZABETH CONKLING, Louisville		
To March salary, Stenographer for Medico-Legal Committee	50.00	
Mar. 31—Voucher Check No. 100		1.75
KENTUCKY BOOK MANUFACTURING CO., Louisville		
To binding copies of Kentucky Medical Journal for year 1936	1.75	
Mar. 31—Voucher Check No. 101		4.08
LOUISVILLE POSTMASTER, Louisville		
To postage for February	4.08	
Mar. 31—Voucher Check No. 102		121.47
PREMIER PAPER COMPANY, Louisville		
To 25,400 8 1-4 x 11 1-4 28 lb. Manila O. E. Catalog Envelopes at 4.88	123.95	
Less 2%	2.48	
	121.47	
Mar. 31—Voucher Check No. 103		50.00
FOSTER R. PHILLIPS, Asst. Supervisor, Division of Operations, W. P. A. in Kentucky, Danville		
To fund for incidental items for restoration of McDowell Home	50.00	
Mar. 31—Voucher Check No. 104		532.00
THE TIMES-JOURNAL PUBLISHING COMPANY, Bowling Green		
To 2200 April Issue—76 pages	520.00	
To Printing Envelopes	3.50	
To Inserts Scored	8.50	
	532.00	
Mar. 31—Voucher Check No. 105		179.14
LOUISVILLE POSTMASTER, Louisville		
To 2 M No. 5 3c Envelopes at 31.96 per M	63.92	
To 3 M No. 8 3c Envelopes at 32.88 per M	98.64	
To 500 No. 9 3c Envelopes at 33.16 per M	16.58	
	179.14	
Apr. 30—Voucher Check No. 106		135.00
A. T. McCORMACK, M. D., Louisville		
To April salary, Secretary	135.00	
Apr. 30—Voucher Check No. 107		90.00
L. H. SOUTH, M. D., Louisville		
To April salary, Business Manager	90.00	
Apr. 30—Voucher Check No. 108		90.00
J. F. BLACKERBY, Louisville		
To April services rendered Committee on Public Policy	90.00	
Apr. 30—Voucher Check No. 109		75.00
ELVA GRANT, Louisville		
To April salary, Bookkeeper	75.00	
Apr. 30—Voucher Check No. 110		50.00
ELIZABETH CONKLING, Louisville		
To April salary, Stenographer for Medico-Legal Committee	50.00	
Apr. 30—Voucher Check No. 111		50.00
JUDGE REX LOGAN, P. M., Bowling Green		
To postage for Journal	50.00	
Apr. 30—Voucher Check No. 112		**8.44**
LOUISVILLE POSTMASTER, Louisville		
To postage for March	8.44	
Apri. 30—Voucher Check No. 113		27.50
THE BROWN HOTEL, Louisville		
To 22 meals at 1.25 each for Councilors	27.50	
Apr. 30—Voucher Check No. 114		7.10
BUSH-KREBS CO., Louisville		
To 1 H. T. X-ray view and 1 Z. E. of chart	7.10	
Apr. 30—Voucher Check No. 115		5.00
THE FLAX COMPANY, Dayton, Ohio		
To 3 boxes Flax-Waxed typewriter carbon paper — Black light medium weight No. 25 size 8 1-2" x 13"	5.00	
Apr. 30—Voucher Check No. 116		498.00
THE TIMES-JOURNAL PUBLISHING CO., Bowling Green		
To 2100 May Issue—72 pages	480.00	
To Envelopes	15.00	
To Printing Envelopes	3.00	
	498.00	
May 31—Voucher Check No. 117		135.00
A. T. McCORMACK, M. D., Louisville		
To May salary, Secretary	135.00	
May 31—Voucher Check No. 118		90.00
L. H. SOUTH, M. D., Louisville		
To May salary, Business Manager	90.00	
May 31—Voucher Check No. 119		90.00
J. F. BLACKERBY, Louisville		
To May services rendered Committee on Public Policy	90.00	
May 31—Voucher Check No. 120		75.00
ELVA GRANT, Louisville		
To May salary, Bookkeeper	75.00	
May 31—Voucher Check No. 121		50.00
ELIZABETH CONKLING, Louisville		
To May salary, Stenographer for Medico-Legal Committee	50.00	
May 31—Voucher Check No. 122		150.0
CURTIS & CURTIS, Attorneys, Louisville		
To services rendered, 7-1-36—12-31-36 inclusive	150.00	
May 31—Voucher Check No. 123		36.15
S. C. SMITH, M. D., Ashland		
To expense as Councilor, 9th District	36.15	
May 31—Voucher Check No. 124		11.53
LOUISVILLE POSTMASTER, Louisville		
To postage for April	11.53	
May 31—Voucher Check No. 125		6.42
RAILWAY EXPRESS AGENCY, Louisville		
To express from Bowling Green, 3-1, 8, 22 and 4-12-37 for Journal	2.95	
To express to Bowling Green, 3-1, 2, 25 and 4-23-37 for Journal	3.47	
	6.42	

May 31—Voucher Check No. 126		1.80
SOUTHERN BELL TELEPHONE & TELEGRAPH CO., Louisville		
To 2 long distance calls to Bowling Green, 3-1 and 2-37, for Journal	1.80	
May 31—Voucher Check No. 127		17.63
BUSH-KREBS CO., Louisville		
To 3 sq. copper halftones	11.55	
To 1 copper halftone of X-ray view and 1 zinc etching of chart	6.08	
	17.63	
May 31—Voucher Check No. 128		3.45
C. E. PURCELL, M. D., Paducah		
To refund as follows:		
Check received for 3 cuts	15.00	
Cost of 3 cuts paid by Check No. 127	11.55	
Per refund	3.45	
May 31—Voucher Check No. 129		451.50
THE TIMES-JOURNAL PUBLISHING CO., Bowling Green		
To 2100 June issue—68 pages	455.00	
To inserts scored	8.50	
To printing envelopes	3.00	
	466.50	
Less envelopes charged on bill for May issue—not ordered	15.00	
May 31—Voucher Check No. 130—Void		
	451.50	
June 30—Voucher Check No. 131		135.00
A. T. McCORMACK, M. D., Louisville		
To June salary, Secretary	135.00	
June 30—Voucher Check No. 132		117.95
L. H. SOUTH, M. D., Louisville		
To June salary, Business Manager	90.00	
To expense to Bowling Green and return, March 4 and 5	9.70	
To expense to Berea and Lexington, June 8 and 9	18.25	
	117.95	
June 30—Voucher Check No. 133		90.00
J. F. BLACKERBY, Louisville		
To June services rendered Committee on Public Policy	90.00	
June 30—Voucher Check No. 134		89.30
ELVA GRANT, Louisville		
To June salary, Bookkeeper	75.00	
To expense to Berea and return, June 9th	14.30	
	89.30	
June 30—Voucher Check No. 135		50.00
ELIZABETH CONKLING, Louisville		
To June salary, Stenographer for Medico-Legal Committee	50.00	
June 30—Voucher Check No. 136		37.87
LOUISVILLE POSTMASTER, Louisville		
To Postage for May	37.87	
June 30—Voucher Check No. 137		3.17
RAILWAY EXPRESS AGENCY, Louisville		
To express from Bowling Green, 5-17 and 24-37, for Journal	1.47	
To express to Bowling Green, 5-15 and 20-37, for Journal	1.70	
	3.17	
June 30—Voucher Check No. 138		6.45
MEFFERT EQUIPMENT CO., Louisville		
To 1 M No. 4 L-4 Cards Punched Special	6.00	
To 2 Index Books	.45	
	6.45	
June 30—Voucher Check No. 139		1.00
BUSH-KREBS CO., Louisville		
To 6 proofs of halftone on enamel paper	1.00	
June 30—Voucher Check No. 140		1.30
SOUTHERN BELL TELEPHONE & TELEGRAPH CO., Louisville		
To long distance call to Lexington, 5-14-37, for Association	1.30	
June 30—Voucher Check No. 141		424.00
THE TIMES-JOURNAL PUBLISHING CO., Bowling Green		
To 2100 July issue—64 pages	426.00	
Less check for setting up chart	2.00	
	424.00	
July 31—Voucher Check No. 142		235.00
A. T. McCORMACK, M. D., Louisville		
To July salary, Secretary	135.00	
To sundry expense	100.00	
	235.00	
July 31—Voucher Check No. 143		90.00
L. H. SOUTH, M. D., Louisville		
To July salary, Business Manager	90.00	
July 31—Voucher Check No. 144		90.00
J. F. BLACKERBY, Louisville		
To July services rendered Committee on Public Policy	90.00	
July 31—Voucher Check No. 145		75.00
ELVA GRANT, Louisville		
To July salary, Bookkeeper	75.00	
July 31—Voucher Check No. 146		50.00
ELIZABETH CONKLING, Louisville		
To July salary, Stenographer for Medico-Legal Committee	50.00	
July 31—Voucher Check No. 147		225.00
CURTIS & CURTIS, Attorneys, Louisville		
To legal services rendered Jan. 1-July 1-1937	150.00	
To legal services rendered in case of Edwin Anderson vs. Dr. Leo Zimmerman	75.00	
	225.00	

July 31—Voucher Check No. 148		50.00
JUDGE REX LOGAN, P. M., Bowling Green		
To postage for Journal	50.00	
July 31—Voucher Check No. 149		34.64
LOUISVILLE POSTMASTER, Louisville		
To stamps for June	31.50	
To postcards	3.14	
	34.64	
July 31—Voucher Check No. 150		1.82
RAILWAY EXPRESS AGENCY, Louisville		
To express from Bowling Green, 6-12-37	.81	
To express to Bowling Green, 6-16-37	1.01	
	1.82	
July 31—Voucher Check No. 151		14.25
BUSH-KREBS CO., Louisville		
To 1 sq. HT Medical Subject	4.00	
To 3 sq. HT's Portraits of Doctors	10.25	
	14.25	
July 31—Voucher Check No. 152		13.59
WOMAN'S AUXILIARY, KENTUCKY STATE MEDICAL ASSOCIATION, Louisville		
To 25% commission on advertisement amounting to $73.49	18.37	
Less cost of 1 M envelopes ordered 7-15-37	4.78	
	13.59	
July 31—Voucher Check No. 153		2.65
SOUTHERN BELL TELEPHONE & TELEGRAPH COMPANY, Louisville		
To long distance call to Berea, 6-3-37, regarding annual meeting	.95	
To long distance call to Richmond,, 6-7-37, for Association	.85	
To long distance call to Richmond, 6-28-37, regarding annual meeting	.85	
	2.65	
July 31—Voucher Check No. 154		410.00
THE TIMES-JOURNAL PUBLISHING CO., Bowling Green		
To 2100 August Issue—60 pages	410.00	
July 31—Voucher Check No. 155		1.34
MAYME SULLIVAN, Louisville		
To reimbursement for the following:		
Express from Bowling Green, 3-27-37, for Journal	.50	
Express to New Jersey and return, 7-17-37, for Association	.84	
	1.34	
Aug. 31—Voucher Check No. 156		135.00
A. T. McCORMACK, M. D., Louisville		
To August salary, Secretary	135.00	
Aug. 31—Voucher Check No. 157		90.00
L. H. SOUTH, M. D., Louisville		
To August salary, Business Manager	90.00	
Aug. 31—Voucher Check No. 158		90.00
J. F. BLACKERBY, Louisville		
To August services rendered Committee on Public Policy	90.00	
Aug. 31—Voucher Check No. 159		75.00
ELVA GRANT, Louisville		
To August salary, Bookkeeper	75.00	
Aug. 31—Voucher Check No. 160		50.00
ELIZABETH CONKLING, Louisville		
To August salary, Stenographer for Medico-Legal Committee	50.00	
Aug. 31—Voucher Check No. 161		450.00
THE TIMES-JOURNAL PUBLISHING CO., Bowling Green		
To account of September Journal	450.00	
Total Disbursements		$16,583.68
Transfer to correct error:		
Aug. 31—Voucher Check No. 162		10.13
KENTUCKY STATE MEDICAL ASSOCIATION, Savings Account		
To transfer of dividend on stock, Louisville Title Mortgage Co., which was deposited in checking account instead of Savings Account (Check issued to clarify the accounts)	10.13	
TOTAL		$16,593.81

COURT HOUSE, RICHMOND

AN EVALUATION OF ELECTRICAL HEART SOUND RECORDS FROM A CLINICAL STANDPOINT*

Emmet F. Horine, M. D.

Louisville.

Introduction

Clinical medicine and to an especial degree cardiology have been enriched by the introduction of graphic methods. In mentioning only the polygraph, the names of Vierordt, Marey, Alonzo T. Keyt, and especially Mackenzie flash through the mind as clinicians who studied the pulse by means of this instrument. The electrocardiograph calls to mind Waller, Einthoven, Thomas Lewis and a host of other investigators. The contributions of these men working with such instruments of precision are so recent that many of us have personally observed order follow chaos with reference to our knowledge of the irregularities of the heart. We have further seen how invaluable the electrocardiograph has become in disclosing hitherto unsuspected evidence of coronary and myocardial changes. In fact a thorough heart examination is now incomplete unless electrocardiograms are made, especially in persons over forty years of age.

This paper is an attempt to evaluate clinically heart sound records according to our present knowledge. Although the telephone was invented in 1876 and Stein in 1879 had patented an electrotelephonic apparatus for the registration of heart and pulse movements, it was not until 1894 that Einthoven and Geluk successfully used an electrical transmitter to pick up the heart sounds which actuated a capillary electrometer, the movement being photographed.

Historical Development

Donders in 1866 and Martius in 1888 are sometimes incorrectly credited with a method for recording heart sounds. These investigators, as also Marey and Chaveau, Fredericq, Landois, Edgren, and von Ziemssen did not record the sounds, but merely attempted to mark the time relationships of the sounds on the apical cardiogram by means of ordinary auscultation. In 1892, Huertle by an ingenious method, went a step further and employed a microphone pick up for the heart sounds which were passed through an induction coil, and the induced currents were used to cause contractions of the muscle from a frog's leg. The end of the muscle was attached to the membrane of an air capsule which actuated a kymographic lever. Thus the heart sounds were represented by a wavy line on the kymographic paper and at the same time the apical cardiogram was being recorded by another lever. Huertle was not, in his earlier experiments, interested in obtaining a true representation of the heart sounds, but merely attempted to determine accurately their exact onset and thus analyze the simultaneously recorded cardiogram. In addition, by using a telephone receiver in the circuit, he was able to determine the heart rhythm from the induced currents, though the characteristics of the sounds were not transmitted.

As mentioned above, to Einthoven and Geluk belongs the credit for first successfully recording the vibration sounds of the heart by using a microphone and a capillary electrometer. Normal sounds and also murmurs were recorded by this method. Von Holowinski (1896) also used a microphone in picking up the heart sounds, but recorded them by photographing the changes in Newton's interference rings as observed in a specially adapted telephone receiver (optical telephone). The apparatus devised by von Holowinski was called a "strepitograph." The technique of its operation was difficult and the records obtained were not readily analyzed.

Einthoven, shortly after constructing the string galvanometer (1903) and using it for electrocardiography, began to employ it for recording the heart sounds. The early records obtained by him have been generally accepted as a standard for comparison, though it is now appreciated that the carbon granule microphone employed by him caused inherent distortion. Noteworthy contributions employing Einthoven's methods were soon made by Fahr, Lewis, Battaerd, Bridgman, Frank N. Wilson, and Ross A. Jamison. Non-electrical, so-called "direct methods" for recording heart sounds have been employed by Roos, Oskar Weiss, Gerhartz, Ohm, Frank, Eden, Wiggers, and Dean, but with the exception of the last two men, the records showed little similarity to the electrical ones of Einthoven.

Simplified Technique

During recent years there has been a revival of efforts to simplify the technique of recording sounds. Perfected vacuum tube amplifiers now permit magnification of sounds to any desired degree, and at the present time, an easily manipulated apparatus using vacuum tubes has been placed at the disposal of the clinician permitting him to record readily the sounds of the heart. Simultaneously with the cardiac sounds either a sphygmogram, a phlebogram, or by a combined arrangement, an electrocardiogram may be recorded. The instrument, termed an "electrostethograph," picks up the sound waves by means of a perfected microphone and feeds them into a vacuum tube amplifier. In amplification the sounds become transformed into variations of electrical energy which are conducted to a d'Arsonval type galvanometer. This galvanometer has a movable coil to which is attached a small concave mirror which, as the coil responds to electrical variations, reflects a focused beam of light on to a six centimeter wide moving strip of photographic paper. Also, a ground glass screen is used to catch the light beam thus permitting one to see the vibrations as they are photographed. In addition, an electrical reproducer is used to which ordinary stethoscopic ear pieces are attached which permit the physician to hear also the magnified sounds.

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*Read before the Kentucky State Medical Association at Paducah, October 5, 6, 7, 8, 1936.

For teaching or demonstration purposes the instrument may be used as a sound amplifier magnifying the sounds hundreds of times. Even a loud speaker may be operated and the sounds increased in intensity so that they would be audible over a large auditorium.

Recently the value of amplifying the sounds was demonstrated. A student had a reduplicated second sound which I was anxious that he hear. In listening with an ordinary stethoscope, he could not detect the reduplication even though I tried to describe the sounds he should hear. As soon as I attached the microphone, however, and moderately amplified the sounds, he was immediately able to detect the peculiar reduplication.

In making a complete phonocardiographic study, the microphone is successively placed in three locations and the sounds recorded in each. First the microphone is placed on the chest over the maximal impulse of the heart, then over the second intercostal space to the left of the sternum and finally over the second right intercostal space. Thus the apical, the pulmonic, and the aortic sounds are recorded in succession.

Depending upon the physician's clinical experience in auscultation, his ear will be "tuned" for certain sounds to the disregard of others possibly of importance. Phonocardiograms reproduce accurately all vibrations, and, therefore, furnish more precise evidence than auscultation. Anyone who has experimented, even for a short time in recording heart sounds, finds his ability to hear and analyze sounds augmented. There is an apparent increase in the acuity of hearing. What happens is that the limited and imperfect powers of auditory perception are compared with an exact visual record with the result that after each comparison there is an increase in the ability to analyze the component elements of the sounds.

When the heart is very fast and especially if irregular, it may be impossible to correctly time any murmurs present, but under such circumstances, phonocardiograms will accurately reveal the time relations.

In addition to increasing one's knowledge of what is heard, there is the added advantage of securing a permanent photographic record of all of the vibrations. Ultimately insurance companies will demand that heart sound records be made in all doubtful cases. Phonocardiograms of the same patient made at regular intervals may be decidedly helpful in determining whether the valve lesion is progressive or not.

The value of heart sound records for teaching purposes cannot be over-emphasized. Hirschfelder's statement concerning this point deserves quoting: "This graphic method has the manifest advantage of showing objectively to the student, as no other method can, exactly what he hears, and of enabling him to correct his errors by repetition of the auscultations. . . . The records show the exact relation to systole and diastole and the exact duration of abnormal sounds. . . . Its only defect, if it is a defect, is that it shows objectively to the student, the occasional fallibility of the instructor; and it must be admitted that some very well known clinicians studiously shunned the laboratory."

Systolic Murmurs

The average physician's ear seems especially "tuned" for systolic murmurs. Possibly this is because the systolic murmur is high pitched, and, of course, also more frequently present. At any rate, in patients referred to me, the systolic murmur is never missed unless it be very faint, while diastolic murmurs are often overlooked. In striking contrast to this is the fact that heart sound records, with scientific and unerring accuracy, disclose many systolic murmurs as of low amplitude and sometimes even buried in the first heart sound. My first phonocardiogram was of a loud apical systolic murmur and I was surprised at its appearance in the finished record. The murmur was invisible aside from fine vibrations distorting the excursions produced by the first sound. Later, I found that Lewis had commented on this same fact in saying: "When a systolic murmur is present in conjunction with the first sound, the microphone records both; the ear detects one or other and exaggerates it according to the degree and direction in which the mind is concentrated."

However, further study shows that systolic murmurs of any length are often easily recorded, particularly the ones accompanying structural defects. An interesting question arises as to whether it may be possible, by sound records, to differentiate between those systolic murmurs due to organic disease and those due either to dilatation of the orifices or extra-cardiac factors. It may be found that the vibration frequency of organic murmurs is different from those of non-organic origin. A study of this problem is under way at the present time. Systolic murmurs of various types are shown in figure one.

DIASTOLIC MURMURS

In rapidly and irregularly beating hearts, diastolic murmurs are often faint and especially difficult to time with certainty. I have occasionally seen patients who, when first admitted to the hospital, had such rapid hearts that neither the resident physicians nor I could, with any degree of assurance, determine by ordinary auscultation whether the murmur was systolic or diastolic.

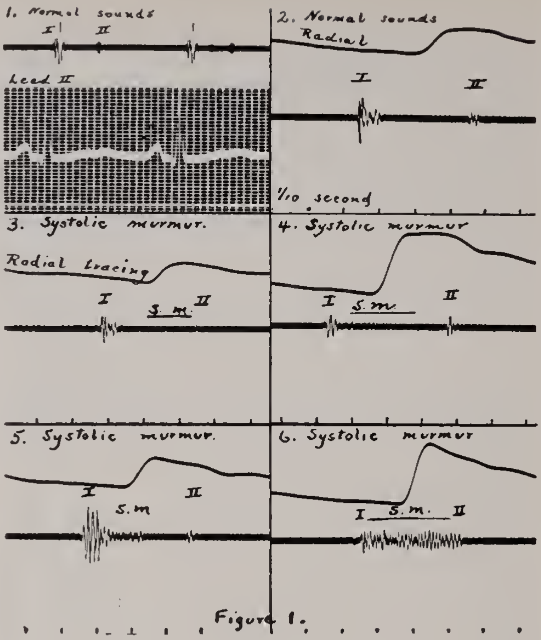
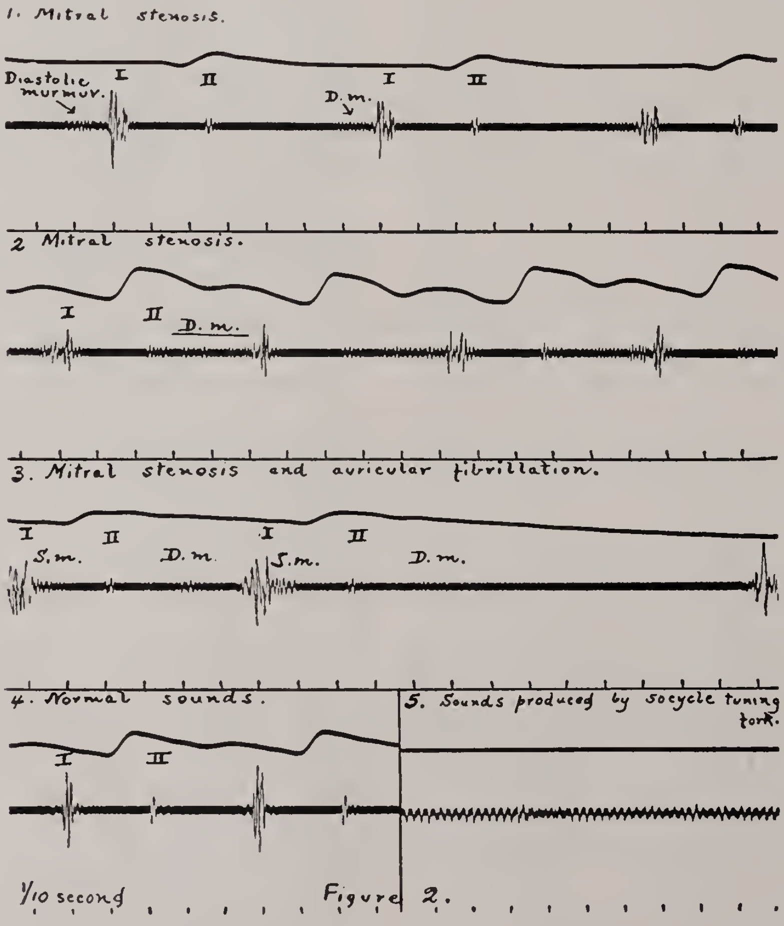


Figure 1.



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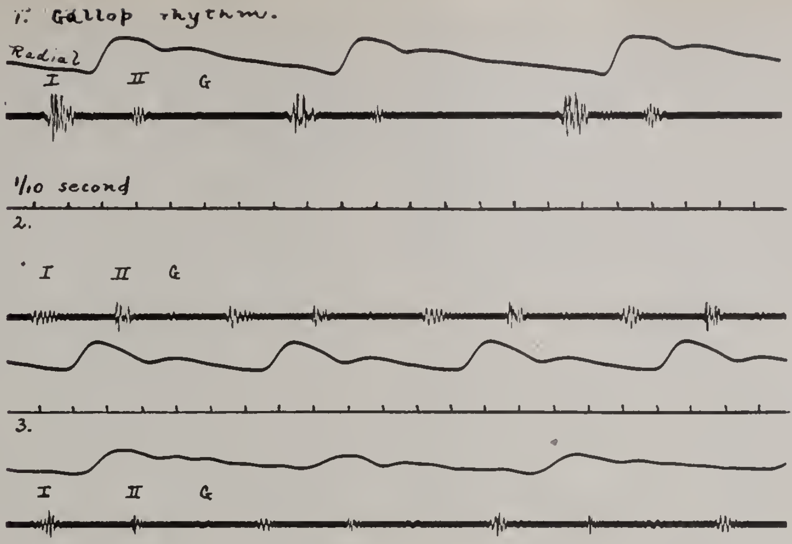

Figure 3.

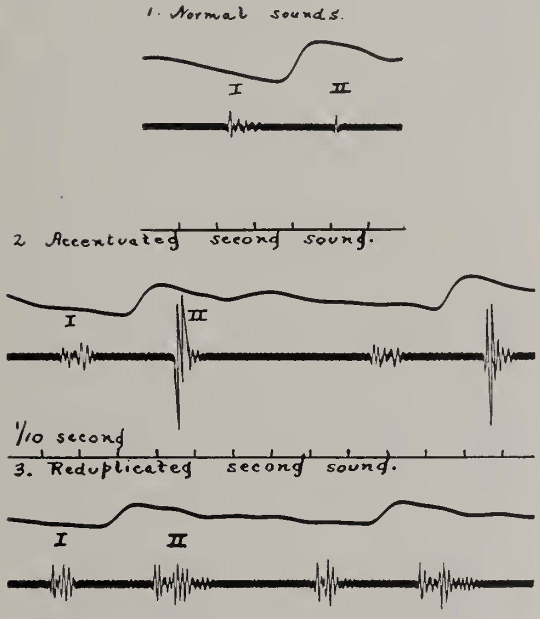

Figure 4.

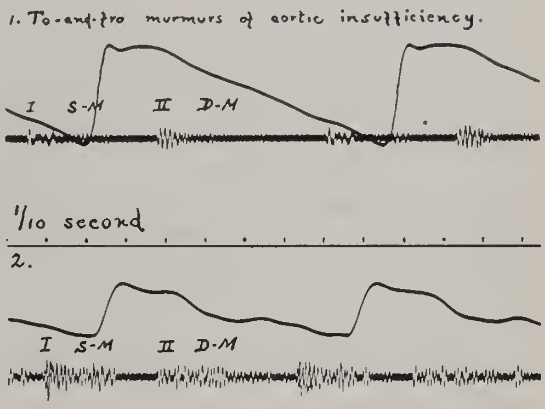

Figure 5.

Mitral Stenosis

In the literature one occasionally sees references to mitral stenosis *sine murmure.* Personally I have met with a few cases in which no murmur was audible, although there was a characteristic roentgen cardiac silhouette and sufficient other evidence to justify a diagnosis of mitral stenosis. However, the contour of the heart is not always altered by mitral stenosis, and under such a circumstance, when neither a diastolic murmur nor a diastolic "opening snap" is heard, the proper diagnosis would be missed. Heart sound records will permit of an early and correct diagnosis by revealing a diastolic murmur of low vibration frequency which accounts for its inaudibility by auscultation. Wilson and Wishart have called attention to the value of phonocardiograms in mitral stenosis, and more recently Johnston re-emphasized their position. Figure two illustrates types of diastolic murmurs recorded in patients with mitral stenosis.

Extra Heart Sounds

The frequently encountered extra sounds, such as reduplicated sounds, the third heart sound, and gallop rhythm, are all readily recorded. The sounds are easily analyzed and furnish permanent evidence of the presence of the abnormality.

Comment

In calling your attention to electrical heart sound registration, it is not my purpose to suggest that the method supplant ordinary auscultation. In cardiology, a diagnosis will continue to be based upon a carefully obtained history by the physician, (and I might add, not by a non-medical office assistant), followed by an equally careful physical examination. However, no one will deny that the diagnosis will be more exact if supplemented by routine laboratory examinations, an X-ray film, an electrocardiogram, and a phonocardiogram, all best interpreted by the physician who obtained the history and made the physical examination.

Summary

1. After brief historical references a simplified electrical apparatus for heart sound registration is mentioned.
2. For teaching purposes heart sound registration is invaluable.
3. One's ability to discern and analyze sounds is definitely increased through the use of phonocardiograms.
4. The exact position in the heart cycle of murmurs and extra sounds is accurately determined by sound records.
5. Occasionally records of the heart sounds may reveal mitral stenosis long before any abnormality is audible by auscultation.
6. Phonocardiograms supplement auscultation and furnish a permanent and complete visual record.

DISCUSSION

Shelby W. Wishart, Evansville, Indiana: Mr. Chairman, Members of the Society: I am sure you know how much I appreciate Dr. Horine's having asked me to discuss his fine paper. I have not a great deal to add, but here and there I may be able to make a comment which will emphasize some of the excellent points that he has brought up.

For eighteen years I have been intensively studying sounds as heard over the heart, and elsewhere over the chest. Throughout this period I have had intimate association with workers in the field who are accepted as distinguished members thereof. All of my own observations, as well as those of whom I speak, have been made primarily with the stethoscope and our other physical senses, but at no time have we deprived ourselves of the benefits to be derived from certain special equipment, without which all would be woefully handicapped.

My training was under one who insisted on all conclusions being checked to final certainty with every device at our disposal, realizing, of course, when we had taken advantage of everything science has to offer in the making of a diagnosis, that we were wrong all too often. As the years have passed and my experience has grown greater and greater, it is at times with real embarrassment that I am conscious of how often I would have been in error if it had not been for such assistance. The above has made me quite humble diagnostically where the interpretation of sounds is concerned, just as I became more and more humble as the electrocardiograph taught me how many things could be happening to a heart that my senses failed to detect.

I am bitterly opposed to permitting mechanical devices to make diagnoses for us, as we permit our diagnostic acumen to decay from failure to use it, whereas it could have served even better in the solving of most of the diagnoses mentioned if we had not been too accustomed to allowing technical assistants to take our place. I am just as opposed to the propagation of dogma as applied by some when for some reason they seem to be afraid to set a precedent and boldly admit to the general practitioner that distinguished though they are said to be, years of checking their own diagnostic accuracy has taught them the limits of what they can honestly claim the ability to do, and thereby frankly establish a proper place for special instruments of precision in the field of diagnosis.

In 1913 and '14 began the work of Sir Thomas Lewis, which has elevated the cumbersome curiosity of Professor Einthoven's physiological laboratory in Leyden, where he did so much for electrocardiography, to an established place in clinical cardiology.

Over ten years ago I first met Dr. Emmet Horine in Louisville, at which time I gave a paper before the old Ohio Valley Medical Society on The Clinical Benefits to be Derived from Graphically Recording the Heart Sounds. It is perhaps fitting that I be here today to hear and open the discussion on Dr. Horine's excellent paper. The willingness of such outstanding workers to frankly admit their inability to accurately analize all phases of the cardiac cycle and every occurrence therein, regardless of the speed of the heart, is just one more milestone in establishing cardiology and the application of graphic sound record work in an impregnable place. Most certainly Dr. Horine is to be commended for this excellent paper, and, able as he is to continue his studies in the medical school surroundings, much of great future worth should be forthcoming.

Chronic Toxicity of Dinitrophenol.—Schulte administered alpha dinitrophenol orally to dogs for periods of 175 days in doses up to 26 mg. per kilogram daily. The doses, which were sufficient to produce subacute poisoning and eventual death, did not demonstrably affect the function of the liver as indicated by galactose and uric acid tolerance tests. Pathologic examination revealed no lenticular opacities, and the livers were essentially no different from those of unmedicated dogs kept under similar conditions.

BACTERIOLOGIC AND SEROLOGIC STUDIES IN THE EPIDEMIC OF POLIOMYELITIS IN KENTUCKY, 1935

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Lillian H. South, M. D.
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The successful production of transmissible, filtrable viruses of poliomyelitis and encephalitis from streptococci has emphasized anew the etiologic importance of the streptococcus in epidemic poliomyelitis and encephalitis. Hence, a study of the epidemic of poliomyelitis in Kentucky, in 1935, was undertaken. Diagnostic spinal punctures were made and the poliomyelitis antistreptococcus serum was administered to patients in cooperation with attending physicians. Bacteriologic studies, by the special methods previously used, (8, 11, 16) were made of the spinal fluid and of the nasopharyngeal swabbings of patients who had poliomyelitis, and of nasopharyngeal swabbings of poliomyelitis contacts, of well persons within the epidemic zone but not in contact with the disease, and, as controls, of well persons remote from the epidemic zone. Cultures were also made from milk and water supplies, of flies, and of other material suspected as possible sources of infection. Specimens of blood for serologic studies were drawn from patients in different stages of the disease, and from well controls. Some of these materials were examined in the laboratories of the State Board of Health, Louisville, and some were refrigerated with "dry ice" and shipped to Rochester, Minnesota, by air mail, where cultures, animal inoculations, and electrophoretic and serologic studies were made.

The epidemic began shortly after a strong wind blew from the south where poliomyelitis was present in epidemic form, and it was peculiar in the following respects. Older children and young adults, instead of infants, were chiefly stricken. There was a noteworthy lack of contact infection. In an unusually large number of cases the following symptoms appeared: paralysis, severe tremors, twitchings, convulsions, lethargy and other symptoms of encephalitis. Symptoms referable to the posterior horns, ganglia or nerve roots (radiculitis), and symptoms of myositis, pyelonephritis and cystitis, were unusually common. The morbidity and mortality rates were far lower than is usual in epidemics of typical infantile paralysis or Heine-Medin disease. Two cases of herpes zoster, two of bronchopneumonia in association with paralysis, and two of "lethargic" encephalitis, were seen by us within the epidemic area. Among the children of a schoolroom where a case of poliomyelitis had occurred a short time before, three cases of spasmodic torticollis developed.

Electrophoretic Mobility of the Streptococci

The method used in this study was similar to that previously described (11). The distribution curve of the electrophoretic mobility of the streptococcus isolated from the nasopharynges of patients who had poliomyelitis in this epidemic, as in previous epidemics studied, was strongly neurotropic; that is, a high percentage of the streptococci had a velocity of 3.45 and 1.72 microns per second, volt per centimeter (fig. 1). Administration of the poliomyelitis antistreptococcus serum seemed to cause a much earlier return to the normal type of streptococcus in the throats of those who received serum than occurred in the throats of untreated patients, as measured by electrophoretic studies. This was associated with an earlier disappearance from the throat of the "poliomyelitis" streptococcus, as shown by the precipitin reaction (table 1), than in cases in which treatment was not given. The average curve of electrophoretic mobility of the streptococcus from the nasopharynges of contacts and of well, noncontacts within the epidemic zone, was moderately neurotropic. This was true also in the group of physicians of Paris, Kentucky, which was on the outskirts of the epidemic zone, some of whom had attended patients within the epidemic zone. The distribution curve of electrophoretic mobility of the streptococci from the throats of the group of children in Paris, none of whom had been exposed to the disease, proved normal.

Precipitin Tests

The poliomyelitis anti-streptococcus serums used in treatment and in the precipitin reaction were prepared by repeated injections of horses (9), over a long period of time, with the streptococcus isolated from the brains and spinal cords of persons who had died of typical poliomyelitis in other epidemics, and from the spinal cords of monkeys that had succumbed to poliomyelitis following inoculation of "virus." A positive precipitin reaction (6) between the cleared suspensions of nasopharyngeal swabbings and the poliomyelitis antistreptococcus serum, under conditions of the experiments, is proof that persons whose nasopharyngeal swabbings gave this reaction

Table 1

Precipitin reaction between cleared extracts of nasopharyngeal swabbings and poliomyelitis and other antistreptococcal serums

Groups			Persons	Swabbings	Encephalitis	Per cent positive reactions with:							
						Streptococcal antiserums					Control serums		
						Poliomyelitis		Acute Encephalitis	Arthritis	Ulcerative colitis	Type pneumococcus		Normal horse
					H 84	H 91	H 93	H 96	H 94	H 59	I	II	serum
Patients with poliomyelitis		2 to 7 days	24	31	84	84	80	77	39	6	3	6	0
		8 to 14 days	21	30	73	73	80	75	30	0	0	0	0
		15 to 28 days	22	37	62	54	49	60	20	0	3	3	0
		Total	67	98	72	79	68	70	25	2	2	3	0
Contacts, in family groups and at Isolation Hospital, Louisville, Kentucky			60	60	45	45	45	45	12	3	2	3	0
Controls	In epidemic zone	Patients at Children's Free Hospital, Louisville	34	34	44	41	41	44	12	0	0	0	0
		Personnel, State Board of Health, Louisville	66	66	38	35	35	36	24	3	4	6	0
	Outskirts of epidemic zone	Physicians at meeting, Paris, Kentucky; and personnel, Health Department, Lexington	53	53	21	22	21	26	4	0	0	0	0
		School children, Paris, Kentucky	43	43	23	23	23	24	10	0	0	0	0
		Patients with chronic diseases, Rochester, Minnesota	43	43	0	0	2	7	7	0	0	0	0

were, at the time, carriers of the streptococcus which was immunologically like the one with which the serum was prepared. We have used this method in a study of this epidemic, as in previous epidemics (11, 16), and have found again that the incidence of positive reactions was very high among patients who had poliomyelitis and indirectly proportional to the duration of the disease at the time of the swabbing (see table 1). The incidence of positive reactions was next highest among contacts and among noncontacts residing within the epidemic zone and lowest in the groups outside of the epidemic zone. The encephalitis antistreptococcus serum prepared with the closely related streptococcus obtained from patients who had encephalitis also gave a high incidence of reactions; less high, the arthritis antistreptococcus serum prepared with streptococci obtained from patients who had arthritis, and only occasionally was a positive reaction obtained with the ulcerative colitis antistreptococcus serum, the type pneumococcus immune serums and normal horse serum (see table 1). In this, as in other epidemics, the incidence of the carrier state of this streptococcus in the throats of well persons was roughly proportional to the incidence of the disease in the epidemic in question.

SKIN TESTS

It has been shown in epidemics of poliomyelitis that the incidence of positive skin tests with highly diluted suspensions of the heat-killed streptococcus of poliomyelitis, or with filtrates of cultures (7, 12, 15, 17), is highest

Table 2

Results of skin tests with streptococcal antigens from poliomyelitis on persons residing within epidemic zone:

Date	Streptococcal antigens used		Patients convalescing from poliomyelitis*		Controls	
			Number tested	Per cent positive	Number tested	Per cent positive
8-27-35	Arthritis (control)		31	20	31**	42
	Polio-myelitis	Los Angeles	31	3	31	51
		Havana	31	16	31	58
		Adapted virus	31	13	31	61
9-2-35	Arthritis (control)		23	26	50**	30
	Poliomyelitis	Louisville	23	13	50	34
		Rochester	23	9	50	26
9-7-35		Los Angeles	12	17	39***	87
		Louisville	12	8	39	33
		Adapted virus	12	25	39	77

*Chiefly at City Hospital.

**Controls: patients at Children's Free Hospital.

***Contacts: members of 11 families in which the 12 cases developed (Louisville, Kentucky).

in the age groups wherein persons are most susceptible to poliomyelitis. Nearly all patients who had poliomyelitis reacted strongly positively at the onset of the attack, and as recovery ensued reactions became negative to the poliomyelitis antigen but not to a similarly prepared antigen of streptococci obtained from patients who had arthritis (11, 17). In this epidemic we have studied the reactivity of the skin of patients and of controls, to streptococcal suspensions (table 2). Two of the poliomyelitis antigens were prepared with streptococci isolated from patients who had poliomyelitis, and one with streptococci isolated from the spinal cords of monkeys that succumbed to poliomyelitis following injection of "virus." The arthritis antigen was prepared from streptococci isolated from arthritic joints of rabbits following intravenous injection of streptococci obtained from patients who had arthritis. All strains had been preserved for a long time in dense suspension of glycerin (2 parts) and 25 per cent solution of sodium chloride (1 part). There was no opportunity to test patients in the earliest stages of the disease in this epidemic, but three series were tested in the course of convalescence, three to twenty-one days after onset. Many of the patients tested were in the contagious division of the city hospital and many of the controls were at the Children's Free Hospital. We are indebted to Doctors Moore and Pritchett and their associates, for their cooperation. The incidence of positive reactions to each of three different poliomyelitis antigens, not to the arthritis antigen, in each of the three series was far less than in the control groups consisting of an equal number of children of the same ages, and presenting other similar conditions. On the basis of these results it may be concluded that the streptococcus having neurotropic electrophoretic mobility, demonstrated in the throats and spinal fluid of patients in this epidemic, was not a passive invader but an infective agent to which specific immunity developed.

AGGLUTINATION TESTS

Agglutination tests were made with streptococci and with serum obtained from patients convalescing after poliomyelitis, from well contacts and from well controls. The agglutination antigens were prepared in a manner similar to the antigens used in the skin tests. With few exceptions, the serums from patients who were convalescing from poliomyelitis agglutinated specifically, more markedly, and in higher dilution (as high as 1 to 250), the streptococci obtained from patients who had poliomyelitis than did the serums from well contacts and controls.

CULTURES FROM SPINAL FLUID, MILK AND WATER SUPPLIES, FLIES, RAGWEED AND GOLDENROD

The spinal fluid from twenty patients was examined for streptococci. Smears of thoroughly centrifugated sediment, stained by a modified gram stain and by the new method (13), revealed diplococci in fifteen cases and cultures in dextrose-brain broth and chick-mash medium revealed pleomorphic diplococci or streptococci in eight cases. The five specimens of spinal fluid, smears of which were negative, and the seven of which cultures were sterile, were all obtained late in the acute attack (4 to 6 days after onset).

Samples of milk were collected in a sterile manner, from previously unopened bottles, in homes where cases of poliomyelitis had occurred and, through the kind cooperation of Doctors Kennedy and Williams at the bacteriologic test laboratories, ten different brands were obtained, each before and after pasteurization, representing the chief milk supply of Louisville. Altogether fifty-one samples were cultured. When inoculated with raw milk, blood-agar plates always yielded a larger number of colonies, especially of streptococci and colon bacilli, than when inoculation was with pasteurized milk. This difference was especially marked in work with the brands of which both the raw and corresponding samples of pasteurized milk were cultured. Cultures on blood-agar plates, of the twenty-four samples of raw milk, yielded green-producing streptococci in five, indifferent streptococci in six, staphylococci in six and colon bacilli in seventeen, instances. The twenty-seven samples of pasteurized milk cultured on blood-agar plates yielded green-producing streptococci in only four, indifferent streptococci in five, staphylococci in four, and colon bacilli in four, instances. The cultures in dextrose-brain broth of the twenty-four samples of raw milk yielded streptococci in twenty-three, staphylococci in five, and colon bacilli in seven, instances, and the twenty-seven samples of pasteurized milk revealed streptococci in twenty-three, staphylococci in three, and colon bacilli in two, instances.

The distribution curve of electrophoretic mobility of the streptococci isolated from raw milk was strongly neurotropic (fig. 1) in 24 per cent; normal, or isopotential, in 56 per cent, and pneumotropic in 20 per cent, of twenty-five strains studied, whereas of the twenty strains studied from the pasteurized milk only two (10 per cent) were neurotropic, sixteen (80 per cent) were normal or were isopotential, and two (10 per cent) were pneumotropic.

The two strains of streptococci isolated from pasteurized milk, and two strains isolated from raw milk, had neurotropic electrophoretic mobility, caused flaccid paralysis in rabbits and resisted pasteurization (63° C. for thirty minutes) when suspended in milk. These strains were isolated from the brand of milk supplied to households where proportionally more cases of poliomyelitis occurred than where other brands of milk were used.

Eight samples of butter were cultured. All of these were obtained in homes in each of which a case of poliomyelitis had occurred. Green-producing or indifferent streptococci were isolated from five of the samples. All of nine samples of artificial buttermilk, cottage cheese, and streptococcus lacticus starters that were cultured yielded green-producing or indifferent streptococci on blood-agar plates, and pure, or nearly pure, cultures of streptococci in dextrose-brain broth.

Samples of water were collected in a sterile manner from water supplies in different parts of the state where cases of poliomyelitis occurred, and as controls from water supplies where no cases occurred, and from flowing streams, cisterns and open ponds. Cultures were made in dextrose-brain broth by inoculating several tall tubes with 3 c.c. each; each tube contained approximately 17 c.c. of the medium. The inoculum was added throughout the length of the column of medium. The cultures were incubated at 35°C. As soon as growth occurred, smears were made and stained by the gram-safranine method. Altogether sixty-two samples of water were cultured, and bacilli, either gram-positive or gram-negative, resembling Bacillus subtilis, grew in fifty-seven, streptococci in sixteen, staphylococci in three, diphtheroid bacilli in one, and colon bacilli with gas production in eight instances. Gram-negative, gas-producing bacilli were found in only three instances in mixture with streptococci, whereas bacilli resembling Bacillus subtilis were found in all of the sixteen samples which yielded streptococci. Four of the strains of streptococci produced indifferent and twelve produced green colonies on blood-agar plates. None of nine samples of the water supply of Louisville, obtained chiefly in buildings where cases of poliomyelitis had occurred and where there was adequate pressure, yielded streptococci. Streptococci, together with gram-positive bacilli, were isolated from two samples of water obtained in two homes at the outskirts of Louisville where one case of poliomyelitis had occurred in each home. Some of the other children in the two homes and many in the neighborhood had developed gastro-enteritis associated with headache and fever. There was inadequate water pressure in this isolated area. At one home in the country where one case of paralytic and two cases of abortive poliomyelitis had occurred a short time before, the water from the driven well yielded the streptococcus. In one instance the rain-water from a cistern at a church in the country was found badly contaminated with streptococci which had neurotropic electrophoretic mobility and virulence.

Eight samples of ragweed blossoms were cultured in dextrose-brain broth; of these, three yielded streptococci always together with gram-positive or gram-negative bacilli. Two of the samples which yielded streptococci were from large patches in vacant lots, immediately adjacent to two homes where cases of poliomyelitis had occurred. One of two samples of goldenrod blossoms, and one specimen of sweet-pea blossoms, yielded streptococci. Cultures from the roots of ragweed and goldenrod did not yield streptococci. Cultures in dextrose-brain broth of emulsions and corresponding filtrates of three batches of fifty flies each, caught in three homes where cases of poliomyelitis had occurred, yielded streptococci in each of the three instances and these streptococci produced small, grayish colonies, each surrounded by a green halo on blood-agar plates.

Animal Experiments

The virulence of streptococci isolated from the spinal fluid and nasopharynges of patients, from the nasopharynges of control persons, from dairy products, from water, from ragweed and from flies, was determined by intracerebral injection of rabbits, guinea pigs and mice, and by intraperitoneal injection of mice. One-tenth cubic centimeter of a 1 to 1,000 dilution of the primary dextrose-brain broth culture was injected routinely, intracerebrally into guinea pigs and rabbits, and 0.03 c.c. intracerebrally into mice, and 2.5 c.c. of the undiluted culture was injected intraperitoneally into mice. Altogether, twenty-eight rabbits were given injections of streptococci isolated in the course of the acute stage of the disease from twenty-two patients who had poliomyelitis. Flaccid paralysis was the outstanding symptom. Paralysis developed in twenty-four (85 per cent), and thirteen (46 per cent) died. Green-producing streptococci were isolated from the brains and spinal cords of twenty-four (85 per cent) and from the blood of three (10 per cent). Fourteen rabbits were given injections of streptococci isolated from ten controls who resided within the epidemic zone. Flaccid paralysis developed in four (28 per cent) and five (35 per cent) died. Green-producing streptococci were isolated from the brains and spinal cords of three (21 per cent), and from the blood in no instance. Emulsions or filtrates of emulsions of five samples of ragweed blossoms, or the streptococcus isolated therefrom, and cultures of the streptococcus or emulsions of the brains of positive animals were injected intracerebrally into altogether, seven mice, with "takes" in five; into fourteen rabbits, with "takes" in nine, and into three guinea pigs, with "takes" in three. Cultures from the brains of fourteen animals that succumbed yielded the streptococcus in six instances. Flaccid paralysis developed in six of the nine rabbits that received injections. Sections of the brains of one, or more, animals of each of these species revealed moderate to marked perivascular, parenchymatous and meningeal infiltration with round-cells. Five of seven rabbits that received injections of the streptococcus isolated from raw milk developed flaccid paralysis and all died of respiratory failure. The streptococcus was isolated from the brains and spinal cords of four.

One of us (Rosenow) has attempted, with some success, to demonstrate the presence of the streptococci and "virus" in the house-fly (Musca domestica) in other outbreaks. In this epidemic flies were caught in three homes where cases of poliomyelitis occurred. Cultures of some of the flies yielded streptococci like those present in the throats of persons ill with poliomyelitis. Emulsions and filtrates of emulsions prepared from the three batches of about fifty flies each yielded green-producing streptococci. Pure cultures of these produced flaccid paralysis of rabbits. Emulsions and corresponding filtrates of these flies were injected intracerebrally into mice and rabbits. Altogether, eighty-eight mice and thirteen rabbits were given injections of emulsions, and sixty mice and ten rabbits were given injections of filtrates, or of emulsions or filtrates of the brains of positive animals. "Takes" occurred in fifty-six of the eighty-eight mice, and in seven of the thirteen rabbits that received emulsions, and in forty-seven of the sixty mice and in four of the ten rabbits that received filtrates. The streptococcus was isolated from the brains of twenty of thirty-seven mice and of five of six rabbits that succumbed to injection of emulsions, and of eleven of thirty-seven mice and of two of three rabbits that succumbed to filtrates.

The streptococcus was not isolated from the brain, in a single instance, of sixty-four mice which had recovered following injection and which were killed and cultured as controls.

Three filtrates of emulsions of flies were made and injected intracerebrally into animals. The first filtrate was given to one monkey, one rabbit and four mice; the second filtrate was given to a second monkey, a second rabbit and four other mice; the third filtrate was given to a third monkey, a third rabbit and still four other mice. Each of these filtrates yielded the streptococcus in dextrose-brain broth cultures. One monkey, all of the rabbits, and nine of the mice developed symptoms. Flaccid paralysis, most marked of the right hind extremity, and other symptoms of poliomyelitis, developed in one monkey. It was etherized to death on the eleventh day following injection, as it was recovering. Cultures from the emulsion of the brain and spinal cord yielded the streptococcus; those from the blood, liver and kidney remained sterile. In sections of the lumbar part of the spinal cord were marked degeneration of ganglion cells and perivascular, round-cell infiltration. Examination of sections of the medulla and brain disclosed slight perivascular and meningeal round-cell infiltration. The lesions in the rabbits and mice were characteristic. Filtrates of emulsions of brain and spinal cord of the monkey, of one of the rabbits, and of one of the mice, gave "takes" on further intracerebral injection in rabbits and mice, but not in monkeys. Similar experiments with emulsions, filtrates and cultures of flies caught outside of the epidemic zone proved negative

Among the animals inoculated with the streptococcus obtained in this epidemic, in addition to the main symptom, flaccid paralysis, there was a relatively high incidence of involvement of brain, nerve-roots, muscles, lungs and urinary tract, in keeping with the peculiar features of the epidemic. Paralysis, as in monkeys following injection of virus, began usually in the extremities opposite to the side of intracerebral injection, more often in the fore than in the hind extremities. This paralysis rapidly extended to the opposite side, often involving all extremities. The paralysis usually was not as pronounced as it was following injection of strains from more virulent epidemics, and at first was often spastic and associated with severe fibrillary twitchings or spasms of muscles; later, however, complete flaccidity usually supervened. The type of disease seen among inoculated rabbits often resembled closely that of the patient from whom the material was obtained. Following injection of the streptococcus isolated in the course of the epidemic, there was a greater tendency for the paralysis to progress to a certain stage and then to improve, than in other epidemics studied. At the same time, deaths were less common, the duration of life after injection was longer, and perivascular and parenchymatous, round-cell infiltration in the brain and spinal cord was more pronounced. Diffuse suppurative meningitis was not observed in examination of the animals. Moderate, diffuse congestion of the brain, and especially of vessels surrounding nerve roots, was common. Localized infiltration by round-cells and leukocytes and edema of the pia over the anterior aspect of the medulla, was found especially in rabbits that died of the bulbar type of paralysis. Exudative peritonitis in mice following intraperitoneal injection occurred only rarely. Perivascular infiltration of the brain with round-cells was found commonly in those that died later. Lesions of the urinary bladder or of the medulla of the kidney occurred following injection of streptococci obtained in cases in which urinary symptoms had developed. The microscopic lesions found in sections of the brain and spinal cord of rabbits, guinea-pigs and mice that died soon following injections of material containing the streptococcus obtained from patients and contacts, from milk, water, ragweed, goldenrod and flies, consisted mainly of congestion of vessels, hemorrhages of varying degree, chiefly of the anterior horns of the medulla and spinal cord, and of leukocytic infiltration. The lesions, on the other hand, of the animals that died late following injection of materials containing the streptococcus were similar to those noted following injection of filtrates of emulsions made from flies, from ragweed and from old chick-mash cultures of the streptococcus and consisted of degeneration of ganglion cells, edema, neuronophagocytosis and parenchymatous and perivascular infiltration with round-cells. In the group that died soon following injection, there was comparatively little difficulty in isolating the streptococcus and in demonstrating it in the lesions. In the group that died late following injection this was increasingly difficult with the duration of the experiment and sometimes was not accomplished.

SERUM TREATMENT OF PATIENTS

Poliomyelitis antistreptococcus serums prepared in a manner similar to that employed in preparing the batch used in this epidemic have been shown to neutralize virus in vitro (10) and to have marked curative action in the treatment of epidemic poliomyelitis (2, 4, 10, 15, 18, 19) and in experimental poliomyelitis produced in monkeys with virus (10).

Adequate data for analysis were obtained in seventy-two cases of poliomyelitis in which the poliomyelitis antistreptococcus serum was given, and in thirty-one cases which occurred at the same time and under other like conditions, but in which, for one reason or another, the serum was not given. Fourteen patients of those who received serum, and twelve of those who did not, were seen by one or two of us in consultation with attending physicians. The results in the rest of the cases were reported to us in answer to a questionnaire, by letter, or by personal communication, by attending physicians.

The distribution by age in the treated group ranged from one to twenty-four years, and in the untreated group from four months to thirty years; the average was 7.2 and 8.5 years, respectively. There were forty-five males and twenty-seven females in the treated group, and fourteen males and seventeen females in the control group. The acute symptoms were considered as slight in nine (13 per cent) of the cases in which serum was given, and in eleven (35 per cent) of the control cases; as moderate in thirty-two (44 per cent) of the former, and in nine (29 per cent) of the latter; and as severe in thirty-one (43 per cent) of the former, and in 11 (35 per cent) of the latter. The early symptoms were thus severe in a somewhat larger percentage of the treated than of the untreated group. The average cell count of forty-two of the treated patients was 167 per cubic millimeter, and that of twelve of the untreated patients was 137 per cubic millimeter. The average duration of symptoms at the time of the first treatment with serum was 3.9 days, and was two days or less in only twenty-three cases. Only eleven of the treated patients (15 per cent) had no paralysis at the time of the first injection of serum. In only two of these cases, slight paralysis developed and in none was there residual paralysis. Paralysis at the time of the first injection of serum was slight in fourteen cases (19 per cent), moderate in twenty-two (30 per cent). and extensive in twenty-five (35 per cent). Extension of paralysis after treatment with serum had been begun was marked in only three (4 per cent), moderate in five (7 per cent), and slight in fourteen (19 per cent). In fifty (69 per cent) there was no extension or appearance of paralysis after the first injection of serum. Of the control group, paralysis remained absent in three (10 per cent); it was slight in five (16 per cent), moderate in eight (26 per cent) and extensive in fourteen (45 per cent). In other words, the incidence of paralysis during the acute stage of the disease in the two groups was not greatly different. There were two deaths (3 per cent) in the treated group and five deaths (16 per cent) in the control group. The mortality rate in this control group was only slightly higher than that for the entire epidemic.

Of the patients who survived, forty-six (64 per cent) of the treated group had no residual paralysis in contrast with seven (23 per cent) of the control group; twelve (17 per cent) of the treated group and four (13 per cent) of the control group had slight residual paralysis; seven (10 per cent) of the treated group, and seven (22 per cent) of the control group had moderate residual paralysis; only five (7 per cent) of the treated group, and eight (26 per cent) of the control group had severe residual paralysis. Thus, of the treated group the number of patients who had no residual paralysis was proportionately two and a half times greater than the number of patients of the control group who had no residual paralysis, and the incidence of severe residual paralysis was three and a half times greater among patients of the control group than among those of the treated group.

One of the two patients in the treated group who died was a boy eight years of age. Paralysis was extensive thirty-six hours after onset of severe symptoms, when the first injection of serum was given. Five injections, 60 c.c. in all, were given. Paralysis was arrested for three days, when extension occurred, resulting in death from respiratory failure. The other patient was a girl three and a half years of age, who had severe paralysis on the fifth day, when serum was given. Three injections, of 10 c.c. each, were given without apparent effect. The five patients of the control group, who died, were three, eight, eleven, fifteen and seventeen years of age, respectively. All of the five patients of the group which received serum, and who had marked residual paralysis, had extensive paralysis at the time of the first treatment by serum. Three of the seven who had moderate residual paralysis received inadequate doses of serum, 7 to 20 c.c. Obviously, the earlier that adequate dosage of the serum was given, the more striking were the immediate and late results. The pain, which was unusually common and severe in this outbreak, often was relieved promptly by the serum, and both slowly and rapidly progressing paralysis often was arrested; this statement applies to five patients who had beginning respiratory paralysis (bulbar type). The results from use of the serum in this, as in other epidemics studied, were less striking among hospitalized patients than among patients treated at home. This was owing, it is believed, to emotional and psychic trauma to the nervous system incident to hospitalization, to delay in giving the serum and to the greater severity of the disease at the time of treatment with serum. The serum was given in one case each of herpes zoster and paralytic poliomyelitis associated with bronchopneumonia, with strikingly good results in both. Of the treated group, only two patients had mild, immediate serum reaction and four had moderate, late serum reaction. The amount of serum given in individual cases varied from 7 c.c. to 95 c.c.; the average was 40 c.c. One of the two patients who had a late serum reaction also had an immediate reaction.

SERUM TREATMENT OF RABBITS FOLLOWING INOCULATION OF THE STREPTOCOCCUS

Nasopharyngeal swabbings were made, in the usual way, of two children who were in the acute stage of poliomyelitis, and of two well children of corresponding age, as controls, but who resided within the epidemic zone. The swabs used in each case were immediately placed in 2 c.c of gelatin Locke solution. After thorough agitation the swabs were removed and blood-agar plates were inoculated. The suspensions of material from the two patients and from the two controls, respectively, were mixed and diluted approximately ten times. Each of twelve young rabbits, weighing approximately 1,000 gm., was given, intracerebrally, 0.1 c.c. of the diluted suspensions. Four received the suspensions from the two controls and eight received the suspensions from the two patients who had acute poliomyelitis. Four of the latter were given 2 c.c. of poliomyelitis antistreptococcus serum intravenously twice daily for three days. The remaining four rabbits of the group of eight were not treated. All four of the untreated rabbits which received the streptococci obtained from the patients developed paralysis and three died within four days. All yielded the streptococcus in large numbers in cultures from pipettings of cerebrospinal fluid admixed with substance from brain and spinal cord. Only one of the four that received the serum developed paralysis and died. The other three which received the serum remained well. The one animal which died, of those which received the serum, succumbed several days later than the untreated controls, and only a few colonies of streptococci were isolated from the brain. Of the four animals which received suspensions from the control persons within the epidemic zone, two died within five days, of paralysis due to the streptococcus and two remained well. These experiments were performed in the laboratories of the State Board of Health. Similar striking protective action of the serum was obtained in Rochester in several additional experiments, with cultures of freshly isolated strains of the streptococcus.

COMMENT AND CONCLUSIONS

The results of this and other studies, and the production of filtrable, transmissible poliomyelitis "virus" from streptococci, (14) indicate that poliomyelitis is primarily a streptococcal infection and that as this infection occurs a "virus" phase of the streptococcus develops. The streptococcus was consistently demonstrated in the throat and spinal fluid in the early stages of acute attacks, commonly in the nasopharynges of well contacts and of well noncontacts within the epidemic zone. Streptococci resembling those found in throats and spinal fluid of patients were isolated from raw milk, less commonly from pasteurized milk, from potable water, flies and ragweed. The production of poliomyelitis with material from the house-fly not previously contaminated by "virus," emphasized anew the possible importance of flies in the spread of poliomyelitis, and has carried the evidence a step further than the work of Rosenau (5), and of Anderson and Frost (1), with the stable-fly, and of Howard and Clark (3) with the house-fly. The importance of raw milk (11, 16) and of water (17) has been shown previously. The results with material from ragweed and goldenrod are new and indicate that the pollens of these plants may be carriers of the streptococcus.

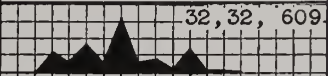
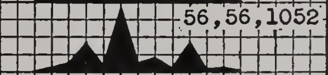
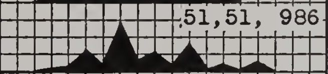
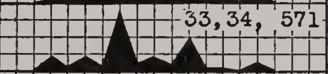
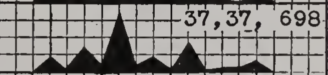
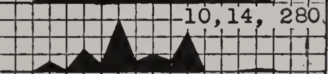
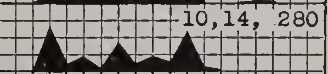
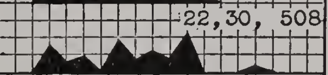
The streptococci isolated in this study had, for the most part, neurotropic electrophoretic mobility and commonly produced in animals flaccid paralysis and lesions closely simulating those of poliomyelitis and encephalitis. The serum obtained in the course of convalescence of patients agglutinated specifically the streptococcus obtained in studies of poliomyelitis. Neutralizing antibodies specific for this streptococcus developed in patients as recovery ensued, as was shown by skin tests. The euglobulin fraction of the serum of horses hyperimmunized with the streptococcus of poliomyelitis agglutinated specifically, and in high dilution, the strains isolated in this epidemic. It had neutralizing power over the "toxin" of the streptococcus. It protected rabbits inoculated with the streptococcus under controlled conditions, and had striking curative action in treatment in this new series of cases.

REFERENCES

1. Anderson, J. F. and Frost, W. H.: Transmission of poliomyelitis by means of the stable-fly (Stomaxys calcitrans). U. S. Public Health Reports, 27:332-335, 1912.

2. Clarke, Floyd and Dow, A. G.: Rosenow's serum in

ELECTROPHORETIC TIME AND MOBILITY OF STREPTOCOCCI ISOLATED FROM THE NASOPHARYNGES OF PERSONS DURING AN EPIDEMIC OF POLIOMYELITIS, KENTUCKY (1935)

Groups (read up)			Cultures neurotropic, per cent	Per cent	Electrophoretic time and mobility of streptococci
Controls outskirts epidemic zone; Paris, Kentucky	Physicians at medical meeting		16	30 20 10	 32,32, 609
	School children of 1st, 4th, 6th, 9th, and 12th grades		25	30 20 10	 56,56,1052
Controls within epidemic zone: personnel State Board of Health, Louisville, Kentucky			18	30 20 10	 51,51, 986
Controls within epidemic zone, at Children's Free Hospital, Louisville, Kentucky			26	30 20 10	 33,34, 571
Contacts: members of families in which poliomyelitis developed a short time before, (1 to 14 days); Louisville, Kentucky			32	30 20 10	 37,37, 698
Patients with polio-myelitis	After serum treatment was adopted	Patients who had had serum 2 to 7 days before (7.6)*	36 (50)**	30 20 10	 10,14, 280
		Patients not given serum (10.7)*	85 (80)**	30 20 10	 10,14, 280
	Before serum treatment was adopted (14.2)*		60	30 20 10	 22,30, 508
Time in seconds					2.0 3.0 4.0 5.0
Microns per second, volt per centimeter					3.45 2.30 1.72 1.38

*Average duration, in days, of disease at time of swabbing.

**Per cent showing positive precipitin reactions with poliomyelitis anti-streptococcus serums.

The figures inserted in the upper right-hand corners of the graphs indicate respectively, the number of strains, cultures and streptococci timed in each group studied

prevention of paralysis in anterior poliomyelitis. Jour. Am. Med. Assn. 83:421-422 (Aug. 9) 1924.

3. Howard, C. W. and Clark, P. F.: Experiments on insect transmission of the virus of poliomyelitis. Jour. Exper. Med. 16:850-859 (Dec.) 1912.

4. Moody, Ellsworth and Hesselberg, Cora: Poliomyelitis antistreptococcus serum: end results in a small epidemic. Arch. Pediat. 51:11-21 (Jan.) 1934.

5. Rosenau, M. J.: Some experimental observations upon monkeys concerning the transmission of poliomyelitis through the agency of the Stomaxys calcitrans. Tr. 15th Internat. Congress on Hygiene and Demography. 1:616-623, 1912.

6. Rosenow, E. C.: Further studies of the poliomyelitis precipitin reaction. Jour. Infect. Dis. 38:532-540 (June) 1936.

7. Rosenow, E. C.: A skin reaction in poliomyelitis. Jour. Infect. Dis. 38:529-531 (June) 1926.

8. Rosenow, E. C.: Streptococci in the spinal fluid in acute poliomyelitis: preliminary report. Jour. Am. Med. Assn. 91:1594-1595 (Nov. 24) 1928.

9. Rosenow, E. C.: Serologic specificity of streptococci having elective localizing power as isolated in various diseases of man. Jour. Infect. Dis. 45:331-359 (Nov.) 1920.

10. Rosenow, E. C.: Poliomyelitis antistreptococcus serum, further studies on the bacteriology and serum treatment of poliomyelitis. Jour. Am. Med. Assn. 94:777-783 (March 15) 1930.

11. Rosenow E. C.: An institutional outbreak of poliomyelitis apparently due to a streptococcus in milk. Jour. Infect. Dis. 50:377-425 (May-June) 1932.

12. Rosenow, E. C.: Observations on the epidemic of acute anterior poliomyelitis in Havana, 1934. Proc. Staff Meet. Mayo Clinic. 9:613-616 (Oct. 10) 1934.

13. Rosenow, E. C.: A method of staining microorganisms and their capsular substance, and its application to streptococci and to filtrates of the viruses and spinal fluids in poliomyelitis and encephalitis. Proc. Staff Meet. Mayo Clinic. 10:115-121 (Feb. 20) 1935.

14. Rosenow, E. C.: The relations of streptococci to the viruses of poliomyelitis and encephalitis; preliminary report. Proc. Staff Meet. Mayo Clinic. 10:410-414 (June 26) 1935.

15. Rosenow, E. C. and Nickel, A. C.: Treatment of acute poliomyelitis with poliomyelitis antistreptococcus serum: results from 1921 to 1925. Am. Jour. Dis. Child. 33:27-49 (Jan.) 1927.

16. Rosenow, E. C., Rozendaal, H. M. and Thorsness, E. T.: Acute poliomyelitis: studies of streptococci isolated from throats and raw milk in relation to one epidemic. Jour. Pediat. 2:568-593 (May) 1933.

17. Rosenow, E. C., Heilman, F. R. and Pettet, C. H.: Observations on the epidemic of polio-encephalitis in Los Angeles, 1934. Proc. Staff Meet. Mayo Clinic. 9:443-451 (July 25) 1934.

18. Rowan, J. J., Jr.: Serum treatment of epidemic poliomyelitis occurring in Dubuque, Iowa, during the summer of 1918. Med. Rec. 96:972-974 (Dec. 13) 1919.

19. Sugg, H. R.: Report of thirty-seven cases of acute poliomyelitis treated with Rosenow's serum. Jour. Iowa Med. Soc. 15:573-577 (Nov. 10) 1925.

Treatment of Neutropetic Syndromes.—Reltrametti says that the etiology and pathogenesis of agranulocytosis are unknown, consequently there are neither etiologic nor pathogenic treatments The most rational and useful treatments resorted to are tranfusion, roentgen irradiations of the bones for direct stimulation of the bone marrow, administration of nucleic acid preparations and liver therapy. All the treatments have a common mechanism of action by stimulating especially the granuloblastic tissue of the bone marrow. The nucleotides contained in the blood and in liver extracts stimulate the myeloid tissues when transfusion or liver therapy is administered. The roentgen irradiations result in destruction of the myeloid zones, with consequent output of nucleotides which stimulate granulopiesis. The treatment gives the best effects when it is administered early in the evolution of the disease, before the bone has suffered grave structural and functional lesions. The author reports a case in which complete recovery followed repeated blood transfusion and the removal of carious teeth, which were causing focal infection.

A CASE OF ENCEPHALITIS LETHARGICA COMPLICATING BILATERAL ACUTE SUPPURATIVE MASTOIDITIS[*]

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Winchester.

The patient was a female, white, aged 15 years, who consulted me on September 26th, complaining of severe pain in the left ear. She gave a history of having had a mild attack of influenza, lasting one week, at the end of which time, September 24th, she developed pain in the left ear, and on the following day the membrana tympani ruptured spontaneously. The pain continued, notwithstanding there was free drainage from the ear.

The patient was poorly nourished, anemic and had a decidedly septic appearance. Nose and throat negative. Heart and lungs normal. Temperature 102; pulse 100; respiration 20. Urine negative.

Otoscopic examination showed the left external auditory canal filled with a greenish-yellow discharge. After cleansing the canal, the membrana tympani was seen to be extremely red and swollen, with all the landmarks obliterated. There was a moderately large, round perforation situated in the postero-inferior quadrant of the drum membrane, which showed as a pulsating spot of light. The bony portion of the external auditory canal was red and swollen and there was marked sagging of the postero-superior wall. There was no redness or swelling over the mastoid process, but deep pressure elicited exquisite tenderness over the antrum and especially the tip. The right ear was normal. Smears from the pus from the left ear showed the presence of streptococci. A diagnosis of acute suppurative mastoiditis was made, and the patient admitted to the Clark County Hospital and prepared for operation.

September 27th. Operation. A complete mastoid operation was performed. After removal of the cortex, which was extremely soft and bled freely, the mastoid antrum and cells were found to be exceedingly necrotic and filled with a large quantity of free pus and granulation tissue. The mastoid tip was also necrotic, necessitating complete removal. There was no exposure of the lateral sinus or the dura. Pus from the mastoid cavity at operation gave a pure culture of the Streptococcus pyogenes. The patient reacted well from the operation, but complained of severe pain in the head.

September 28th. Complained of pain in

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[*] Read before the Clark County Medical Society.

the head. Temperature ranged from 99.8 to 101.2. Examination of the right ear revealed slight hyperemia along the long handle of the malleus.

September 29th. Temperature 100.8 to 101.8. Perspired freely, but there was no chill. Complained of pain in the head. Right tympanic membrane showed more general hyperemia.

September 30th. Still complains of pain in the head, but this is not definitely located. Left mastoid wound in satisfactory condition. Temperature 99.2 to 102.6. Right membrana tympani decidedly red and shows slight bulging. Incision of drum membrane evacuated a considerable quantity of pus. Smears from pus showed the presence of streptococci.

October 1st. Patient very restless and complaining of pain in both ears, but very severe in right. Right ear draining freely. Slight tenderness over right mastoid process. Temperature 100 to 102. Packing removed from mastoid wound, which was found to be in excellent condition.

October 2nd. Patient restless and still complaining of pain in head. Right ear draining freely. Some tenderness over right mastoid process. Temperature 99.4 to 102.4. No rigidity of the neck. Lungs negative. Urine negative.

October 3rd. Restless and complaining of pain in head. Temperature 99.4 to 101.8. Lungs negative. Tenderness over right mastoid process more marked. Right ear draining freely. Sutures removed and wound in good condition.

October 4th. Complains of severe pain in right ear and over right mastoid process. Otoscopic examination shows bulging or sagging of the postero-superior wall of right external auditory canal, and there is exquisite tenderness upon deep pressure over the mastoid antrum and tip. Left ear dry. Temperature 99.2 to 100. A diagnosis of acute suppurative mastoiditis on right side was made, and the patient prepared for operation.

Operation. A complete mastoid operation was performed. After removal of the cortex, much free pus was found in the antrum and cells; the cells were necrotic; tip necrotic requiring complete removal; zygomatic cells also necrotic. There was no exposure of the lateral sinus or the dura. Patient reacted well from the operation. Pus from the mastoid cavity at operation showed a pure culture of the Streptococcus pyogenes.

October 5th. Complains of pain in the head. Temperature 101.4 to 103. No rigidity of the neck. Kernig's sign absent. Knee jerks normal. Babinski absent. Lungs negative. Blood count: Red corpuscles, 4,100,000; white corpuscles, 8,000. Differential count: Small mononuclears, 22; large mononuclears, 18; transitionals, 2; polymorphonuclears, neutrophiles, 58. Blood culture negative.

October 6th. Temperature 101.6 to 103.8. Patient delirious at times, talking constantly. When not delirious, complains of pain in the head. Spinal puncture showed fluid clear and under very slight, if any, tension; cell count normal; globulin negative; cultures and smears were negative. Lungs negative. No convulsions or muscle spasms. Both mastoid wounds were opened up and carefully inspected for carious bone and fistula, but nothing was found, the wounds being in good condition.

October 7th. Patient more comfortable. No delirium. Temperature 99.6 to 102.2. Urine shows faint trace of albumen; no casts. Tuberculin test negative.

From October 8th to 16th, the patient was more or less restless most of the time and complained of pain in the head constantly. The temperature ranged between 99.4 and 102.6. The lungs were negative. There was no rigidity of the neck at any time. No Kernig, Babinski or other abnormal reflexes. Transillumination of the nasal accessory sinuses showed both antra, ethmoids and frontal sinuses clear, and the X-ray showed no involvement of any of the accessory nasal sinuses. Blood cultures were negative. Spinal puncture was negative. The mastoid wounds were clean. Right ear dry October 21st.

October 17th. Had a fairly good night, but complained of diplopia and pain in the head, especially over the right supraorbital region. Refused breakfast and vomited greenish fluid. Temperature dropped to 96.8, pulse 48 and respiration 16. Temperature remained subnormal and pulse slow, weak and very irregular. During the day the patient passed into a state of profound stupor. She could be aroused and would answer questions intelligently, but speech was slow and indistinct. Urine showed faint trace of albumen; no casts. Blood count: Red corpuscles, 3,800,000; white corpuscles 8,000. Differential count: Small mononuclears, 19; large mononuclears, 25; transitional, 3; polymorphonuclears, neutrophiles, 53.

October 18th. Temperature 97; pulse 40, very weak and irregular; respiration 10. Refused nourishment. Face extremely pallid, devoid of expression and mask-like. Remained in a constant state of lethargy, but could be aroused. Both mastoid wounds bathed in foul purulent discharge.

October 19th. Remains in state of lethargy most of the time. When aroused complains of pain in the head. Temperature 97; pulse 40; irregular, but fairly good volume; respiration 10. Considerable foul purulent discharge in both mastoid wounds.

October 20th. Patient still in lethargic state. Temperature 97.2; pulse 44, very irregular; respiration 14. Ptosis of right eye; right pupil widely dilated and does not react to light. Paralysis of external rectus producing internal strabismus of right eye. Eye grounds normal. No paralysis of face or extremities. Wassermann reaction negative. Blood culture negative. Mastoid wounds stagnant.

October 21st. Still in stupor. Color better. Temperature 97.6 to 98; pulse 48 to 62, better volume; respiration 10 to 16. Mastoid wounds in same condition.

October 22nd. Still in stuporous condition, but roused once and rang bell for nurse. Strabismus has disappeared. Mastoid wounds in same condition. Temperature 97 to 97.6; pulse 58 to 80, stronger; respiration 15 to 18.

October 23rd. Still in lethargic condition, but roused once during day. Temperature 98 to 99.2; pulse 60 to 110; respiration 14 to 22.

October 24th. In lethargic state most of day. Temperature 97.8 to 98.4; pulse 72 to 88; respiration 16 to 20.

October 25th. In stupor most of day. Temperature 97 to 98; pulse 40 to 84, very weak and irregular; respiration 10 to 16.

October 26th. Patient was in same lethargic condition all through the night, but this morning is conscious, talking and states that she feels better. From this date there was no further lethargy. Temperature 97.4 to 98.8; pulse 72 to 88, better volume; respiration 10 to 18. Both mastoid wounds beginning to granulate.

October 27th. Rested fairly well. Complained of pain in the head at times. Temperature 97 to 98.2; pulse 70 to 80; respiration 18 to 20.

October 28th. Very restless at times and crying with pain in the frontal region. No tenderness on pressure or percussion over the frontal sinuses. Transillumination shows the antra, ethmoids and frontal sinuses perfectly clear. X-ray shows all accessory nasal sinuses normal. Examination of nose and throat negative. Temperature, pulse and respiration normal.

October 29th. Temperature 97.2 to 98. Pulse and respiration normal. Does not complain of any pain. From this date the temperature, pulse and respiration remained normal and the patient complained of no further pain in the head. She left the hospital on November 8th, in good condition. The ptosis of the right eye was still marked, but the right pupil was somewhat diminished in size, although the pupils were still unequal.

November 13th. Pupils equal; ptosis of right eye still marked. Right mastoid wound completely healed.

December 4th. Left mastoid wound completely healed. Ptosis of right eye still present, but is clearing up. The ptosis finally disappeared entirely after two or three months. Hearing in both ears 20/20.

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BOOK REVIEWS

CARCINOMA OF THE FEMALE GENITAL ORGANS: By M. C. Malinowsky and E. Quarter, translated from the Russian by A. S. Schwartzmann, A. B., M. D. Bruce Humphries, Inc., Publishers, Boston.

Eleven of Russia's most prominent surgeons and pathologists have written and illustrated chapters in this book.

The problem of carcinoma of the female sexual sphere from various new points are discussed on the basis of the newest available data and the authors have approached the subject in such a comprehensive manner that the reader is presented at least a thorough elucidation of the problem.

APPLIED DIETETICS FOR ADULTS AND CHILDREN IN HEALTH AND DISEASE: By Sanford Blum, A. B., M. S., M. D., Head of Department of Pediatrics and Director of Research Laboratory, San Francisco Polyclinic and Post Graduate School. F. A. Davis Company, Publishers, 1914-16, Cherry St., Philadelphia. Price $6.00.

On account of the great amount of time required for the preparation of detailed dietaries for individual patients the general practitioner has relegated this valuable department of medicine to the status of only general directions.

The author has prepared this book at a great expense of time and thought so that the physician can readily prescribe an adequate and suitable diet for various diseases that depend upon dietary procedures for amelioration of symptoms.

For instance in gall bladder infections and gall stones a chapter is devoted to the types of food to avoid and the best kind of food most suitable for the patient.

PASSIVE VASCULAR EXERCISES AND THE CONSERVATIVE MANAGEMENT OF OBLITERATIVE ARTERIAL DISEASE OF THE EXTREMITIES: By Louis G. Herrmann, A. B., M. D., Assistant Professor of Surgery, College of Medicine, University of Cincinnati General Hospital, Director of the Vascular Disease Clinics of the Cincinnati General Hospital and the Christian R. Holmes Hospital of the University of Cincinnati. With a foreword by Mont R. Reid, M. D. Illustrated with 80 engravings and 4 colored plates.

J. B. Lippincott Company, Philadelphia and London, Publishers. Price $4.00.

A modern up to date book on the new treatment of obliterative arterial diseases will be welcomed by the profession especially coming from such an authoritative writer.

Pavaex therapy should be available in every hospital and those surgeons who are familiar with Dr. Herrmann's work in this field will welcome this book.

THE MEDICAL CLINICS OF NORTH AMERICA, September 1936. Volume 20, September 1936, Number 2. W. B. Saunders Company, Philadelphia and London.

This St. Louis Number of the Medical Clinics opens with a symposium on the Endocrines by four of St. Louis' most noted physicians. Other subjects of equal interest are discussed, the volume is splendidly illustrated, printed on fine paper.

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ALLERGIC DISEASES, THEIR DIAGNOSIS AND TREATMENT: By Ray M. Balyeat, M. A., M. D., F. A. C. P., Associate Professor of Medicine and Lecturer on Disease Due to Allergy, University of Oklahoma Medical School, Chief of Allergy Clinic, University Hospital; Consulting Physician to St. Anthony's Hospital and to the State University Hospital; President of Association for the Study of Allergy 1930-1931, Director Balyeat Hay Fever and Asthma Clinic, assisted by Ralph Bowen, B. A., M. D., F. A. A. P. Chief of Pediatric Section Balyeat Hay Fever and Asthma Clinic, Oklahoma City, Oklahoma. Illustrated with 132 engravings, including 8 in colors. Fourth edition, revised and enlarged. F. A. Davis Company 1914-1916, Cherry St., Philadelphia, Publishers. Price $4.75.

Allergy has become of increasing interest to the medical profession and the internist welcomes this volume which contains so much that is new in allergic science. All the latest data is given concerning the many new discoveries of better methods for determining the etiological factors in asthma and hay fever.

The author has tried to discuss the various subjects in a practical manner, offering case reports as a means of teaching methods of diagnosis and treatment.

YOU MUST EAT MEAT, FANCIES, FOIBLES AND FACTS ABOUT MEAT: By Max Ernest Jutte, M. D., formerly Lecturer on Stomach and Intestinal Diseases, New York Polyclinic Medical School, member of the American Medical Association, New York State Medical Society, etc., etc., G. P. Putman's Sons, Publishers, New York.

The purpose in presenting this book is to state the case of Meat, which, notwithstanding its conspicuous properties as a blood builder, is being treated like a stepchild in modern dietetics.

Doctors differ perhaps on no subject more notoriously than on the question of Meat, and many a patient is perplexed and confused because he does not know whose advice to take on diet. Books on Modern Dietetics are inclined to be rather one-sided with a definitely strong bias in favor of Vegetables and Fruits; little, if anything, is said about their disadvantages or, for that matter, about the decided merits of Meat—these deficiencies have been placed, it is hoped, in their right perspective in this book.

An all around knowledge of food values, in all their aspects, should enable people to form intelligent opinions of their own as to what they should eat, and to make it possible for them to avoid the pitfalls of ill-advised suggestions.

An effort has also been made to demonstrate the effects of faulty alimentation and of the fermentation of carbohydrate foods, in the establishment of chronic diseases, and to show a logical sequence of events in their development.

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NEXT MEETING RICHMOND, SEPTEMBER 13-16

COUNTY SOCIETIES

Harrison: The Harrison County Medical Society met at the hospital in regular monthly session, July 5, 1937. Members and visitors present were: Drs. McDowell, Blount, Rees, Martin, Wyles, Wells, Todd, Ross, Brumback and W. B. Moore. Drs. Orr, Daugherty, Rickman, Paris; Drs. Douglas Scott and Moore, Lexington.

The meeting was called to order by the president, Dr. Josephus Martin. The reading of the minutes of the previous meeting were omitted.

Dr. Scott, the essayist of the evening, read a paper on "Treatment of Specific Urethritis." The paper was discussed by Drs. Daugherty, Orr, Rickman, Moore, Rees and Wyles. The discussion closed by Dr. Scott, and the meeting adjourned.

W. B. MOORE, Secretary.

Grant: The Grant County Medical Society met in regular session July 21, 1937 in the Court House at Williamstown. The following members were present: Drs. Kinsey, Marshall, Ellis, Davis, George, Blaine, C. M. Eckler, C. A. Eckler and P. E. Harper.

The minutes of the open session meeting of June was reported by Dr. Harper with a verbal account of the excellent meeting, when about sixty-five doctors were present. It was a joint meeting of the Grant County Medical Society and the Licking Valley Medical Association. Each one thought this a banner meeting.

The communications were read and disposed of and some interesting case reports were hurriedly made in order that we might enter into the program of the evening.

We had as our guest and speaker for the evening Dr. Irvin Abell, Jr., of Louisville, a son of Dr. Abell, president-elect of the American Medical Association and were indeed honored to have this learned young man with us. He delivered an address on "The Pitfalls in the Diagnosis of Acute Appendicitis." Dr. Abell though a young man, showed a vast experience with this malady, showing plainly we were listening to a master of his subject. He stressed the awful habit the laity has in giving a purgative in acute abdominal pain before consulting a physician. This very thing frequently leads to a perforation and lessens the chance for recovery.

We thoroughly enjoyed the many pitfalls as the Doctor enumerated them and we could not help but think of our same mistakes we had so often made.

This society wants to again congratulate Dr. Abell for this rare treat he gave us and invite him to visit us at anytime he can.

We decided to meet at different places in the county this year instead of having one meeting place. A motion was made and carried to meet in August at 8 o'clck with Dr. L. C. Roberts of Jonesville.

Our program for the August meeting will be announced later.

We now adjourned to meet again August18th.

P. E. HARPER, Secretary.

Pike: The Pike County Medical Society held its regular monthly meeting at the James Hatcher Hotel in Pikeville on June 3rd, 1337.

Following a banquet, Drs. W. E. Vest and F. C. Hodges discussed "Dyspepsia In Diagnosis and Pathological Forms of Appendicitis," respectively.

The following members of the Society were present: Drs. Flanary, Casebolt, Fullenlove, Gose, Berman, J. E. Johnson, Preston, Burian, Kaminski, Newsome, Osborne, Shields, Cox and Hodges.

Guests included physicians from Prestonsburg, Paintsville, Maryin, Jenkins, Wheelright, Salyersville Van Lear, Williamson and Matewan, West Virginia, and Big Rock, Virginia.

P. H. HODGES, Secretary.

Letcher: The Letcher County Medical Society assembled in the Presbyterian Church in Whitesburg, Tuesday night, June 29. The following physicians were present:

T. R. Collier, Vice President, Whitesburg, B. C. Bach, Whitesburg; Owen Pigman, Farraday; T. M. Radcliffe, Kona; J. E. Johnson, Jenkins; J. S. Newman, McRoberts; R. D. Collins, Whitesburg.

J. E. Johnson delivered a most eloquent address entitled State Medicine; this paper vividly portrayed the status that the medical profession is apparently headed for unless a united front is made by every doctor in America.

The other doctors present discussed this paper at length. After the scientific program was over the doctors retired to the dining room of the church where excellent refreshments awaited them served by Misses Grace Wells, Margaret Denham, and Mrs. R. D. Collins.

R. D. COLLINS, Secretary.

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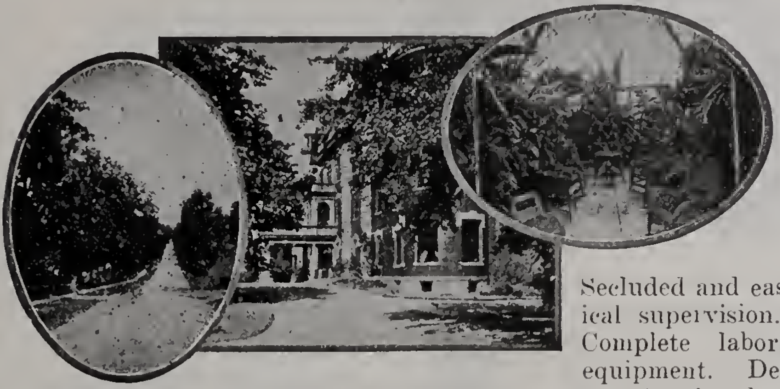

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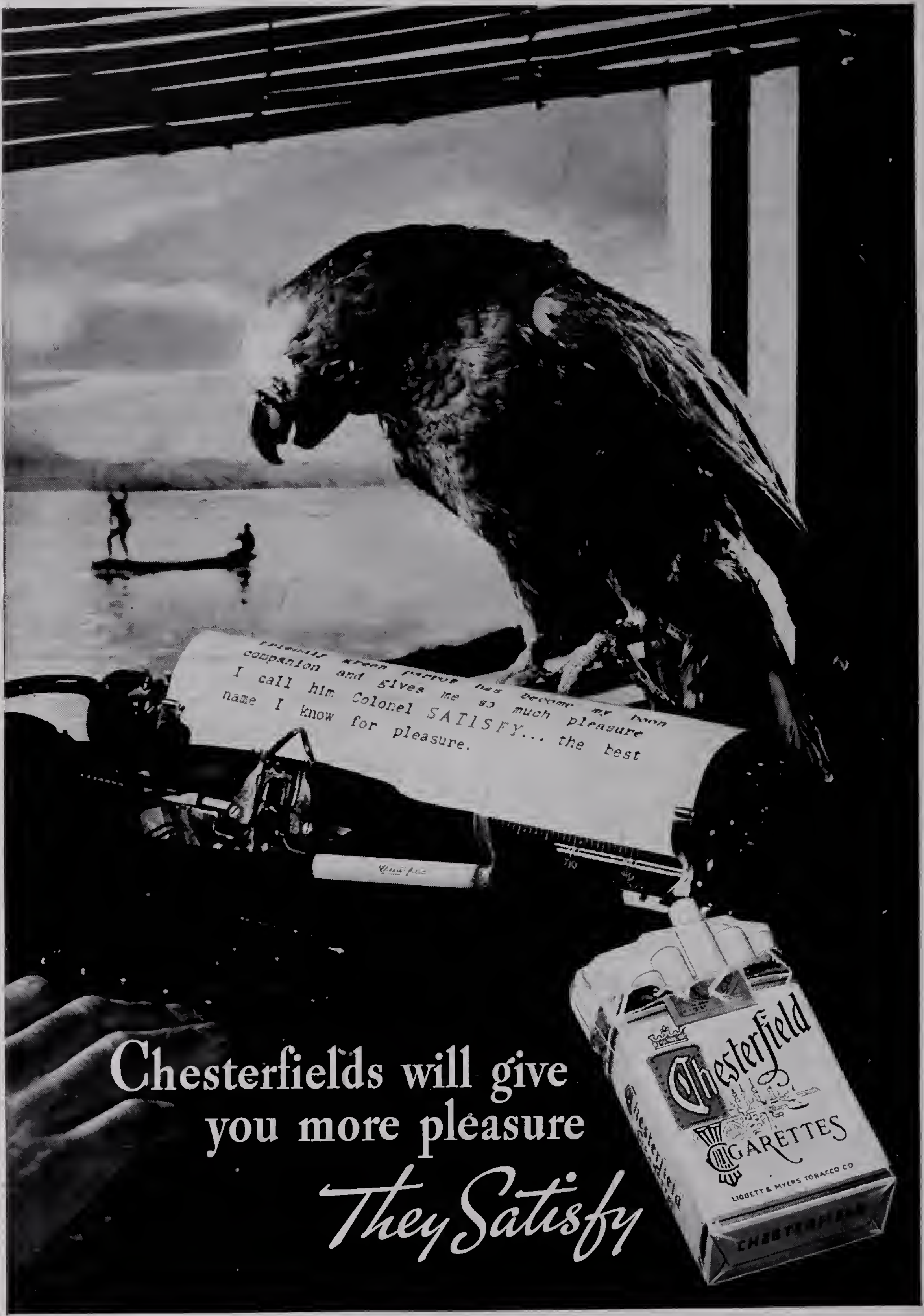

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KENTUCKY MEDICAL JOURNAL

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Editorial and Business Offices, 519 Tenth Street. Subscription Price, $5.00; Single Copy, 50 cents.
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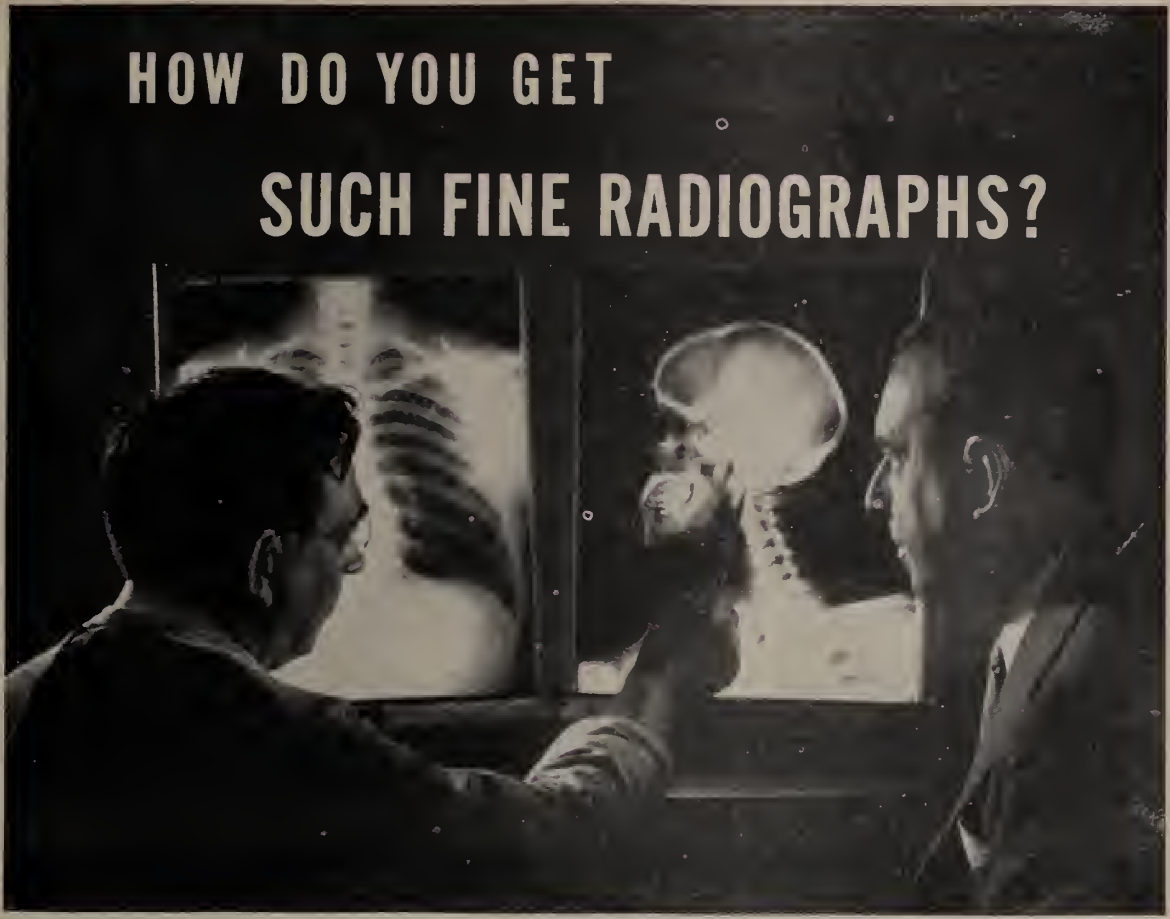

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CANNED FOODS IN THE CONTROL OF LATENT AVITAMINOSES

● In June, 1935, this space was devoted to a discussion of some of the general aspects of latent avitaminoses. It appears pertinent to report some of the more recent ideas in regard to this important field.

Considering the subject of avitaminoses in its entirety, the modern medical attitude is aptly expressed by the following statement: "... the mild or latent forms of the vitamin deficiencies are more important in practice at present than the fully developed cases. The latter are uncommon, are easily recognized and are usually promptly and adequately treated. On the other hand there is reason to believe that minimal or mild forms of these diseases are much more frequent, often escape recognition and, because of their insidious effect on large numbers of people, constitute a more serious problem than the occasional advanced cases." (1)

Consideration of this statement brings home the importance of optimum vitamin intake. Students of nutrition agree that in order to achieve this objective, a liberal and varied diet must be available. The constituents of the diet should be wholesome foods, the preparation of which has not materially reduced their intrinsic nutritive values. Commercially canned foods fall well within this classification.

Modern canning procedures are designed to protect the vitamin potencies of the food. Recent reports in the scientific literature indicate the success attained in retaining vitamin values in commercially canned foods. (2)

In general, the control of latent avitaminoses and the advancement of positive health appear to be largely matters of practical application of facts made available by the modern science of nutrition. We wish to direct attention to the part which the wide variety of canned foods available on the American market may play in establishing dietary regimes calculated to control the avitaminoses.

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(1) 1937. J. Am. Med. Assn. 108, 15.
(2) 1936. J. Nutr. 12, 405.
(2) 1936. J. Am. Diet. Assn. 12, 231.
1936. J. Nutri. 11, 383.
1936. Ind. Eng. Chem. 28, 1009.
(2) 1935. J. Home Econ. 27, 658.
1935. U. S. Pub. Health Rpts. 50, 1333.
1935. Am. J. Pub. Health 25, 1340.

This is the twenty-ninth in a series of monthly articles, which will summarize, for your convenience, the conclusions about canned foods which authorities in nutritional research have reached. We want to make this series valuable to you, and so we ask your help. Will you tell us on a post card addressed to the American Can Company, New York, N. Y., what phases of canned foods knowledge are of greatest interest to you? Your suggestions will determine the subject matter of future articles.

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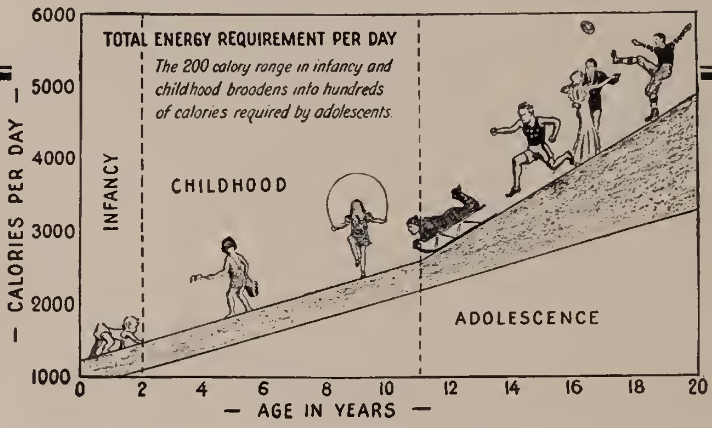

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CALENDAR OF COUNTY SOCIETY MEETINGS

COUNTY	SECRETARY	RESIDENCE	DATE
Adair	N. A. Mercer	Columbia	October 2
Allen	A. O. Miller	Petroleum	October 23
Anderson	J. B. Lyen	Lawrenceburg	October 7
Ballard	F. H. Russell	Wickliffe	October
Barren	Paul S. York	Glasgow	October 16
Bath	H. S. Gilmore	Owingsville	October 14
Bell	R. F. Porter	Middlesboro	October 11
Boone	R. E. Ryle	Walton	October 16
Bourbon	S. M. Rickman	Paris	October 17
Boyd	C. B. Daniels	Ashland	October 8
Boyle	Geo. M. McClure	Danville	October 22
Bracken-Pendleton	W. A. McKenney	Falmouth	October 7
Breathitt	Frank K. Sewell	Jackson	October 15
Breckenridge	J. E. Kincheloe	Hardinsburg	October
Bullitt	S. H. Ridgeway	Shepherdsville	October
Butler	G. E. Embry	Morgantown	October 2
Caldwell	W. L. Cash	Princeton	October 1
Calloway	Hugh L. Houston	Murray	October 3
Campbell-Kenton	C. A. Morris	Covington	October 3-17
Carlisle	J. F. Dunn	Arlington	October 1
Carroll	J. M. Ryan	Carrollton	October 8
Carter	W. S. Hawn	Grayson	October 8
Casey	William J. Sweeney	Liberty	October 24
Christian	Harvey B. Stone	Hopkinsville	October 15
Clark	R. E. Strode	Winchester	October 18
Clay	J. L. Anderson	Manchester	October 8
Clinton	S. F. Stephenson	Albany	October 19
Crittenden	C. G. Moreland	Marion	October 14
Cumberland	W. F. Owsley	Burkesville	October 2
Daviess	Alice W. Davis	Owensboro	October 8-22
Elliott	R. Eugene Wehr	Sandy Hook	October
Estill	Tracy Wallace	Irvine	October 9
Fayette	John Harvey	Lexington	October 15
Fleming		Flemingsburg	October 9
Floyd	J. G. Archer	Prestonsburg	October 30
Franklin	Grace R. Snyder	Frankfort	October 3
Fulton			October 9
Gallatin	J. M. Stallard	Sparta	October 17
Garrard	J. E. Edwards	Lancaster	October 17
Grant	Paul E. Harper	Dry Ridge	October 16
Graves	H. H. Hunt	Mayfield	October 1
Grayson			October
Green	S. J. Simmons	Greensburg	October 7
Greenup	D. C. Parmenter	Greenup	October 11
Hancock	F. M. Griffin	Hawesville	October 7
Hardin	D. E. McClure	Elizabethtown	October 11
Harlan	C. M. Blanton	Harlan	Octobecr 19
Harrison	W. B. Moore	Cynthiana	October 7
Hart	S. F. Richardson	Munfordville	October 1
Henderson	Walter O'Nan	Henderson	October 14-28
Henry	Owen Carroll	New Castle	October 28
Hickman		Clinton	October 3
Hopkins	David L. Salmon	Madisonville	October 3
Jackson			October 5
Jefferson	Arthur T. Hurst	Louisville	October 7-21
Jessamine	J. A. Van Arsdall	Nicholasville	October 24
Johnson	P. B. Hall	Paintsville	October 12
Knott			October 26
Knox	T. B. Davis	Barbourville	October 25
Larue	D. W. Gaddie	Hodgenville	October
Laurel	Oscar D. Brock	London	October 9
Lawrence	L. S. Hayes	Louisa	October 21
Lee	W. D. McCollum	Beattyville	October 12
Leslie	John H. Kooser, Act. Sec'y	Hyden	October
Letcher	R. Dow Collins	Whitesburg	October 29
Lewis			October 21
Lincoln	Lewis J. Jones	Hustonville	October 18
Livingston	William C. Davis	Smithland	October
Logan	Walter Bryne, Jr.	Russellville	October
Lyon	H. H. Woodson	Eddyville	October 1
McCracken	Leon Higdon	Paducah	October
McCreary	R. M. Smith	Stearns	October 7
McLean	L. Hubert Medley	Livermore	October 10
Madison	H. G. Wells	Richmond	October 17
Marion	W. A. Risteen	Lebanon	October 15
Marshall	S. L. Henson	Benton	October 16
Mason	O. M. Goodloe	Maysville	October 9

COUNTY	SECRETARY	RESIDENCE	DATE
Meade	S. H. Stith	Brandenburg	October 24
Menifee	E. T. Riley	Frenchburg	October
Mercer	J. Tom Price	Harrodsburg	October 8
Metcalfe	E. S. Dunham	Edmonton	October 1
Monroe	George E. Bushong	Tompkinsville	October
Montgomery	D. H. Bush	Mount Sterling	October 8
Morgan			October
Muhlenberg	G. L. Simpson	Greenville	October 8
Nelson	R. H. Greenwell	Bardstown	October
Nicholas	T. P. Scott	Carlisle	October 21
Ohio	Oscar Allen	McHenry	October 2
Oldham	S. J. Smock	LaGrange	October 8
Owen	K. S. McBee	Owenton	October 3
Owsley		Booneville	October 7
Perry	D. D. Turner	Hazard	October 14
Pike	F. H. Hodges	Pikeville	October 7
Powell	I. W. Johnson	Stanton	October 7
Pulaski	M. C. Spradlin	Somerset	October 10
Robertson			October
Rockcastle	Lee Chestnut	Mount Vernon	October 10
Rowan	A. W. Adkins	Morehead	October 14
Russell	J. B. Scholl	Jabez	October 14
Scott	Carl M. Gambill, Acting Sec.	Georgetown	October 3
Shelby	A. D. Doak	Shelbyville	October 17
Simpson	N. C. Witt	Franklin	October 8
Spencer			
Taylor	M. M. Hall	Campbellsville	October 10
Todd	B. E. Boone, Jr.	Elkton	October 2
Trigg	H. L. Wallace	Cadiz	October 30
Trimble	J. J. Gerkins	Bedford	October
Union	D. C. Donan	Morganfield	October 30
Warren	Hal Neel	Bowling Green	October 9
Washington	J. H. Hopper	Willisburg	October 16
Wayne			October
Webster	C. M. Smith	Dixon	October 25
Whitley	C. A. Moss	Williamsburg	October
Wolfe	G. M. Center	Campton	October 7
Woodford	Charles F. Voigt	Midway	October 3

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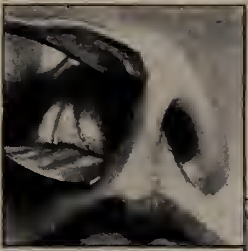

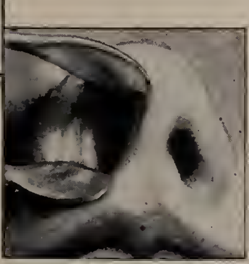

FIG. 1. J. M. C. White, female, age 4. June 5, 1936. Acute rhinitis. 11:40 A.M. Two inhalations of 'Benzedrine Inhaler'.

FIG. 2. 11:50 A. M. Maximum shrinkage evident.

In 100 cases of acute rhinitis in children from two months to twelve years of age treated with 'Benzedrine Inhaler' Scarano and Coppolino report prompt and adequate shrinkage of the nasal mucosa in 97 per cent.—Arch. Pediat. 54:97, 1937.

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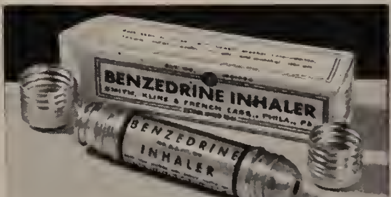

Each tube is packed with benzyl methyl carbinamine, S.K.F., 0.325 gm.; oil of lavender, 0.097 gm.; and menthol, 0.032gm. 'Benzedrine' is the trade mark for S.K.F.'s nasal inhaler and for their brand of the substance whose descriptive name is benzyl methyl carbinamine.

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KENTUCKY MEDICAL JOURNAL

BEING THE JOURNAL OF THE KENTUCKY STATE MEDICAL ASSOCIATION

Published Under the Auspices of the Council

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RICHMOND

The Annual meeting of the Kentucky State Medical Association at the Eastern State Teachers' College at Richmond presents another bright page in the history of medicine in Kentucky. The registration attendance at the meeting was smaller than for many years. One hundred and nine of the one hundred and forty-eight members of the House of Delegates answered the roll call. The proceedings of the House of Delegates, which will appear in the next issue of the JOURNAL, should be read by every physician in Kentucky. Outstanding reports were made and adopted by the Council, the Committee on Public Relations, the Committees on the McDowell Memorial, Medical Education and Health Problems in Education. The Committee on Medical Economics was reorganized. Dr. Uly Smith was added to the editorial staff of the JOURNAL and the publication and management of the JOURNAL were given careful consideration. Dr. Simpson made an interesting report of the proceedings of the House of Delegates of the American Medical Association at its Atlantic City session.

The scientific sessions were of unusual interest and value. The essays and discussions, as they are printed in successive issues of the JOURNAL will be found of value to every reader.

A largely attended banquet was given in honor of Drs. Irvin Abell, President-Elect of the American Medical Association, and A. T. McCormack, President-Elect of the American Public Health Association. A particularly interesting address was delivered at this banquet by Lieut.-Governor Keen Johnson, who also delivered the address of welcome.

A moving picture showing the public health and medical service aspects of the 1937 flood was exhibited following the banquet.

Dr. W. E. Gardner was elected President. Dr. Gardner is one of the leaders in Kentucky, and the nation, in neurology and psychiatry and his selection at this time was particularly appropriate in view of the tremendous progress that is being made by the administration of Governor Chandler in the reclamation of the State Psychiatric institutions. Dr. Gardner served for two terms as a member of the Council of the Association and has previously been Vice-President and is one of the outstanding leaders in American medicine.

Drs. J. D. Sory of Richmond, E. W. Jackson of Paducah and Frank Stites of Louisville were elected Vice-Presidents. Dr. V. E. Simpson was re-elected as delegate to the American Medical Association for two years. Dr. Virgil Kinnaird of Lancaster and Dr. Chas. A. Vance of Lexington were re-elected as members of the Council from the Seventh and Tenth Districts respectively, for five years, and Dr. Vance was subsequently re-elected as Chairman of the Council for the same term.

The next meeting will be held in Louisville in 1938.

KENTUCKY'S DOCTORS

We quote the following appreciative editorial from the brilliant pen of Thos. R. Underwood of the Lexington Herald:

"At the gathering of the Kentucky State Medical Society in Richmond this week tribute was paid to Dr. Irvin Abell, widely known surgeon of Louisville, and to Dr. Arthur T. McCormack, secretary of the state board of health.

Dr. McCormack is now president-elect of the American Public Health Association and Dr. Abell is president-elect of the American Medical Association, certainly the first time that Kentucky has ever had presidents of both of these important organizations at the same time and perhaps the first time that any state has had that honor.

The election of these distinguished Kentuckians to these positions of national trust and honor not only constitutes a tribute to them personally but is a recognition of the physicians of Kentucky in their proficiency in private practice and in their great services to the community and also to the advancement of Kentucky's Department of Public Health.

The Herald frequently has commented upon the services rendered by Dr. Arthur McCormack and the state board of health and some years ago made editorially one of the most vigorous fights of which it was capable to prevent the political despoilation of that great organization built up by Dr. J. N. McCormack, father of Dr. Arthur McCormack and founder of the board.

Dr. McCormack himself has been charged with "playing politics" at times, but whenever he has done so you can put it down that he has done it for the promotion of better public health work in the state of Kentucky, for larger appropriations for the state board of health's work or for more adequate health legislation.

Not only in Kentucky has Dr. McCormack taken a lead but he has gained recognition nationally so that he appears before hearing committees at nearly every session of Congress on such measures as flood control, public health laws, pure food and drug bills and social and welfare work that is inextricably linked with public health administration.

Under the reorganization act in Kentucky all health work is centered in the one department which is soon to enter the building recently purchased in Louisville for all health agencies of the state government.

Kentucky has one of the outstanding health departments in the United States, extending its arms into every county of the state with health officers, investigatory agencies, visiting nurses and others promoting the health of the state.

Outside of public health a closed door prevents the public from seeing the great service rendered by the physicians and surgeons of the state of Kentucky. Medical ethics forbids any notoriety for their achievements in private practice and for their many generous contributions in time and talent to the benefit of the people of their communities.

Occasionally such activities as the crippled children's work has brought this to general notice, but usually it is not known. There is no profession that gives of time and effort on charity cases and that considers the capacity to pay of patrons like the medical profession.

Even though the day of the old family physician is passing, the physician as much as ever comes into the family as no one else does, is respected and admired, and he renders a service of incalculable value to the individual and the community.

In honoring these two men the nation has honored herself and in recognizing this honor to them and those they represent, Kentucky has done a worthy thing."

GEORGE H. SIMMONS

It is with a very real shock that one realizes that the dynamic personality of George H. Simmons is no more. It is trite to say that his is one of the great names which adorn the pages of medical history. His whole life was a remarkable series of contradictions. Born in England, he came to this country while he was a youth, but he was conservatively British every day of his life. In spite of this, he found himself involved in the reorganization of the American Medical Association and helped to lead it from an impotent group of from seven to ten thousand interested physicians to a membership of more than one hundred thousand, reaching into every locality of the United States. Apprenticed as a printer, educated in one of the low-grade commercial medical schools of the period following the War Between the States, he immediately recognized the need for self-education and self-improvement and, then, for such improvement in medical organization and medical education as would prevent other young men from enduring the mistreatment by both which he had received. Helpless himself to solve many of the problems which he recognized, he had that truly English ability of mobilizing effective assistance and developing younger men who could carry through the practical details. He had rare personal charm. He was absolutely indefatigable. In the midst of his active career, he retired and had the pleasure, for twenty years, of watching those whom he had developed carry on the great organization which he had so long led.

We shall always treasure a thousand contacts and conferences with this great man. He attended the last meeting of the American Medical Association and was in the House of Delegates practically throughout its session, tremendously worried, as he always was, about the problems which confront the profession; pessimistic, as he always was, about every ulterior design on the medical profession by everybody outside of the organization; and buoyantly confident and optimistic, as he always was, about the organized medical profession, the American Medical Association, and its great organ, its Journal.

George Simmons was a great man. It will be difficult for his scepter ever to be held by a hand which will be so unanimously supported by the medical profession.

DR. GEORGE W. ARMES

Dr. George W. Armes, 73 years old, a beloved practicing physician for nearly half a century, died at his home in Leitchfield recently after a long illness. Parkinson's disease was the cause of death.

Survivors are his wife, Mrs. Eva Armes; two children, Col. G. H. Armes, Los Angeles, Calif., and Mrs. George E. Bailey, Akron, Ohio; one sister, Mrs. Commodore Willis, Louisville; one brother, Robert Armes, Louisville, and one half brother, James Armes, of near Millwood. Two grandchildren, John

Armes Bailey and Jane Bailey, Akron, Ohio, also survive.

Dr. Armes was born in Grayson County on July 14, 1864. He was educated in the public schools and at the University of Louisville where he received the degree of Doctor of Medicine in 1890. Early in his career he did post-graduate work at the College of Physicians and Surgeons in New York City.

His grandfather, Dr. Daniel Armes, practiced medicine in Virginia and his father, Dr. William Armes, practiced in Grayson County until his death in 1906. Two brothers, Drs. Samuel and Ambrose Armes, deceased, also practiced in Grayson County for many years.

Throughout his career Dr. Armes was vitally interested in the public health and he served one term as health officer of Grayson County. On two occasions he served as medical director of the Kentucky State Hospital for the Feeble Minded.

He had been a member of the American Medical Association, an officer of the Kentucky State Medical Association, and president of the Grayson County Medical Society.

He lived a long and useful life, filled with humanitarian service. With his passing, for the first time in three generations, there is no longer a Dr. Armes in Grayson County. His friends were legion, and the community mourns with the family.

SCHOOL OF PUBLIC HEALTH

The University of Kentucky is making a notable contribution to public health in the Summer Graduate Courses for Health Officers, Public Health Nurses and Sanitary Inspectors. This work is under the direction of Dr. J. S. Chambers, who was formerly Health Officer of Paducah and later of Fayette County. University credits towards degrees are given to those who complete these courses successfully. In the Course this year, there were twenty-six Medical Health Officers two of whom came from New Foundland, and forty nurses, six of whom were from Alabama two from Canada, one each from New Foundland, New York and Wisconsin. There were twenty-eight registered in the courses for Sanitary Inspectors. In addition to the faculty of the Universitv Dr. Harry S. Mustard, until recently of Johns Hopkins University, and now of the University of the City of New York, and Dr. Lowell J. Reed, of Johns Hopkins University, have given special courses in Public Health Administration, Epidemiology and Vital Statistics.

This is another evidence of the desire of President McVey and the trustees and faculty of the University of Kentucky to assist in the practical training of the citizens of Kentucky in public service.

FIFTY-SEVEN VARIETIES OF SKIN FOOD

In a recent issue of the Wyoming Section of the Colorado Medical Journal its extremely masculine Editor, Earl Whedon, has emitted the following, which is reproduced for the benefit of others with similar old-fashioned tastes:

"It is impossible for a mere man to understand the trend of the average feminine mind in the matter of cosmetics. On entering the modern home one finds the dressing table and its numerous drawers filled with almost as many different kinds of lotions, cleansing creams, foundations, powder, rouges, lip sticks, and so forth, as the foods a famous pickle manufacturer advertises.

When you get down to cold facts they are mostly bunches of hog fat differently perfumed. Some may be vegetable oils flavored to suit the pocketbook of the manufacturer, but great for their drawing qualities on the woman's pocketbook. These expensive sucker baits are named with all kinds of deceptive titles. The woman buyer falls for the chatter of some painted and perfumed baby doll standing at the cosmetic counter, recommending the use of these fake cure-alls for skin and hair difficulties.

How glad we are that in our youth we lived in the days when girls' lips were a la nature. When they tasted good and not like a smear of some lard! When the softness of their cheeks was not spoiled by the pasty feeling of a pig's side. When girls smelled like peaches and not like rancid pork. How far O, Lord, must these women of our day go before they learn that good soap and water is all the skin needs to keep it lovely?

To further break a he-man's back the idea is now being broadcast "for men to use lip stick to keep their lips kissable." Ye Gods and Little Fishes! What manner of men are these that require axle grease to satisfy the ladies with a kiss? No he-man needs to paint his lips to lure the lady in his arms. If women require an artificial red on men's lips, they must be all run down!

Away with the fifty-seven varieties, and let nature take her course."

CONGRATULATIONS

Immediately after the adjournment of the Richmond meeting our president, H. G. Reynolds, left for New York, where later he was united in marriage to Mrs. Grace Morrison Poole. Kentucky extends a hearty welcome to this distinguished woman who was formerly president of the General Federation of Women's Club, is also a widely known lecturer and traveler.

WHAT IS NEW IN MEDICINE*

ARTHUR CLAYTON MCCARTY, M. D.

Louisville.

"Nothing New Under the Sun." Surely the one responsible for this remark was not a doctor, 1937 model. Medically speaking, there is so much new under the sun that one must spend much time under the moon or lamp light to comprehend even a part of it. Digesting and compressing were the two major labors of this paper.

Obviously, it will not be possible tonight even to mention all that is new in Medicine. Time permits only the chronicling of well authenticated truths from the literature, with most of which I have had some experience. You may not agree with some of my inclusions and exclusions; that should provoke some interesting discussions here or elsewhere. While I have tried to make this report understandable to the lay members of my audience, I feel that there is reasonable chance of instructing some of my medical friends, also.

BRAIN AND NERVOUS SYSTEM

In this connection two names stand out at once, Benzedrin and Sulphanamide. Benzedrine Sulphate, (one of sympathicomimetic group of drugs, which includes epinephrin, ephedrin and neosynephrin) now has a well-earned place. Used by medical students before examinations as "pep pills," benzedrin promotes speech, action and general efficiency without effecting the mood. It stimulates and hurries up the job in the normal or near normal individual. It is especially effective in alcoholic and organic depression, but is of little benefit where the depression is psychogenic. In Parkinsonian conditions (especially in combination with Stramonium) Benzedrin is highly useful, but it is of little avail in arteriosclerotic changes. Benzedrin stimulates for short periods only, has a tendency to wear out after weeks or months of use, and will effect no psychic changes. (A full summary on the subject may be found in the J. A. M. A.—May 22, 1937.)

Sulfanilamide (first presented under many trade names) is mentioned here because of its proven value in Meningococcic Meningitis. You are all familiar with the early history of this drug (called for short Para-amino-Benzene Sulfonamide) its discovery and trial in Europe; confirmation by Long and his workers at Johns Hopkins; application with astounding results in cases of Beta Hemolytic Streptococcus infections (about the ear, nose and throat, erysipelas, etc.); more startling uses in gonorrhea and complications, gas gangrene infections, and so on. The drug is cheap, effective by mouth, penetrates thoroughly and rapidly, and best of all opens up a new avenue of chemotherapy with unlimited possibilities. Care must be exercised in its use, as it may cause dizziness, gastro-intestinal upsets, anemia, and even Meth and Sulphhemoglobinemia. (No saline laxative.)

Less important, but of equal interest, (to the laity, however) are newer forms of habit treatment. For the tobacco user Lobeline Sulphate relieves nicotinism; and Insulin treatment benefits the alcoholic, (as well as the dementia precox sufferer). Autoserum therapy is well thought of in ethylism, and the combination of paraldehyde with repeated spinal punctures is becoming a standardized treatment for delirium tremens. Finally under this heading, meningococcic antitoxin is preferred by many to meningococcic serum; and picrotoxin is recognized as a reliable antidote for barbiturate poisoning.

RESPIRATORY SYSTEM: Outstanding here is the development of rabbit serum for the treatment of pneumonia. Its cheapness and ease of production, smaller size of antibody with greater penetration (even to the pleural spaces, making it useful in empyema) and failure to cause serum reaction, like that experienced with the horse product, make rabbit serum highly desirable. Selecting the pneumonia case which will benefit most from types 1, 2, 5, 7, and 8 serum, is easily done in any doctor's laboratory by means of the Neufeld Quelling process. Most cases of pneumonia can be typed, given serum, and be well along the road to recovery in a few hours by using these newer methods.

Guaiacol given intravenously has proven a great boon in the treatment of lung abscess. Phenol is the active principle. Especially is this true when it is given along with Neo Salvarsan as an antispirochetal agent.

Influenza has been established as a virus disease against which one may be immunized; and "colds" are thought to be not an infection, but the result of a vasomotor rhinitis and an improper diet too high in carbohydrate content.

Interesting especially to those around Louisville owning Girdler Corporation stock, is the use of helium gas in obstructive dyspnea; while those in the mining and industrial sections cannot fail to rejoice in the discovery that the addition of aluminum powder to various destructive dusts (such as hard coal, quartz, asbestos, etc.) definitely prevents pneumonoconiosis. This work comes with the stamp of approval from Sir Frederick Banting, co-discoverer of insulin.

One must mention under respiratory tract "news," the alum picric acid and zinc sulphate sprays being used so effectively in the prevention of Infantile Paralysis.

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*Read before the Fifth Councilor District, Frankfort, August 26, 1937.

Heart and Circulatory System: New and important in this field is the appreciation that considerable myocardial failure may be due to Vitamin "B" deficiency; that all subacute bacterial endocarditis is not necessarily fatal; that coronary disease may come early in life, (teens or twenties). On the other hand, White has shown that individuals may live 18 to 25 years after a coronary attack, evidencing as many as 4 infarcts at autopsy. Thevetin has established itself in the treatment of myocardial disease and thyrotoxicosis; choline derivatives in paroxysmal tachycardia and seasickness; and ephedrin and adrenalin in Stokes-Adams disease.

The importance of Lead 4 in the electrocardiogram is confirmed and the wisdom of taking more than four leads seriously doubted.

Blood: Ordinary transfusions are now common place and this year we find special refinements of much worth. For example, the transfusion of immunized blood (specific and non-specific) is proving a boon in septicemia, and massive continuous transfusion by the drip method is succeeding for obvious reasons. Many prefer the use of blood plasma only in transfusions where cells are not desired but serum elements are. (Coagulation). Transfusions of stored blood and even cadaver blood are commonly given here and abroad, and there is much to commend the practice.

Snake Venom and Congo Red help mightily in hemorrhagic diseases, while heparin, an anticoagulant, is found useful in preventing pleural adhesions and post operative thrombosis.

Yellow bone marrow concentrate is now an essential in the treatment of agranulocytosis; Vitamin C relieves one type of deficiency anemia; and large doses of iron are important in the management of pregnancy and peptic ulcer. Standardized malarial treatment now demands besides quinine, plasmochin to destroy the gametocytes, as well as atabrine for the schizonts. Carriers and relapses are thus eliminated.

A word should be said at this point about syphilis. Lues is not a new disease, but it is novel to hear on every side broadcasting concerning same. It is new to demand wholesale serological tests, supervised and standardized by the government. All new patients, including wives and sweethearts are to be tested, and soon Wassermann cards may be as common as driver's licenses. Four pluses and two pluses will be glibly talked about across the bridge table, each telling the other how his "plus" was obtained through kissing, or inherited from Aunt Minnie's first husband, a travelling man. It is new to demand continuous treatment, started early and kept up for three years, using approved arsenicals (as Mapharsen) bismuth and iodides. It is new to insist on spinal punctures, treating positive cases with tryparsemide, bismarsen, hyperpyrexia and malarial inoculations.

Gastro Intestinal Tract: New in this realm is the splendid progress being made in gastro-photography and gastroscopic studies. The constant aluminum hydroxide drip treatment of peptic ulcers is apparently here to stay; and the wafers of dried milk and alkaline powder made a Sippy treatment much simpler for the man in the street.

Passing further down, regional ileitis and ileo-colitis (so called Crohn's Disease) are encountered as new diseases. They behave much as appendicitis, substituting diarrhea for constipation. Dried apple powder, and pectin in other combinations, are newer modes of therapy proving useful to man, woman, or child with "summer complaint." Colon Vaccines continue to rank high in Gastro-enterology of 1937. And speaking of injections, many of you will be satisfied to know that water is proving just as effective as histidine in "shots" for ulcers.

Genito Urinary Tract: Besides Sulfanilamide, already mentioned (which Helmholz, of the Mayo Clinic, reports is effective in all types of urinary infection, except streptococcus fecalis), Mandelic acid has the high place in Urological regard. Now provided in tablets and forms less irritating to the intestinal tract, the mandelates render the ketogenic diet unnecessary, at the same time combating pyuria. Mercurials (by needle and suppository): Urea: and hypertonic (50 per cent) sucrose intravenously are the new highly efficient diuretics, largely replacing the xanthenes. The use of vitamin A concentrates, removal of parathyroid tumors, and reduction in the promiscuous use of calcium therapy elsewhere in the body, are recognized aids in renal calculus prophylaxis.

Lastly in this connection, Goldblatt's work on renal ischemia in the production of hypertension cannot go unnoted in any review for 1937.

Skin: Prize for the year in improvement for skin treatment would go probably to the addition of 10 per cent Silver Nitrate technique in the Tannic Acid (5 per cent) method for dressing burns. In adults and children this has gone far towards eliminating infection, and making a good treatment better.

Women present will be interested especially in the new Covermark preparations. The use of this greaseless waterproof product harmlessly, will hide birthmarks, burn scars, automobile accident cuts, et cetera.

Less commonly employed, but highly important is the intradermal use of Frei antigen for lymphogranuloma.

Glands: Organotherapy has not lagged in 1937. Protamine and crystalline insulin, made available to the public, practically revolutionized the treatment of diabetes. Estrogenic, gonadotrophic and androgenic products have been improved and standardized until one may employ these with some feeling of certainty. Menstrual and menopausal disturbances, vulvo vaginitis, acne, these are but a few of the many common disorders yielding to newer gland therapy. Dependable adrenal cortex extract is one of the more recent developments of merit. Combined with saline and vitamin C, Addison's disease may be well combatted. Adrenalin has had added to its many functions, increased liver activity and relief of carotid sinus fainting spells. Within the past few months has come the discovery of a lipocaic hormone in the pancreas which may prove to be an "Insulin" for Fat Metabolism.

Extremities: Improved approaches to the treatment of peripheral vascular diseases include not only Pavaex routine, but the simpler household remedy of contrast baths, and elevation and dropping of extremities by means of a footboard. These, used with a diet which encourages the retention of calcium, and Padutin by mouth or injection, brings surprisingly good results at times. Varicose vein injection grows in popularity by the day.

Interesting new developments in dressings include hypertonic sodium sulphate, ethylene glycol, and magnesium sulphate paste as hygroscopic application. Alcohol-glycerin benefits purulent infections and urea dressings stimulate wound healing.

In the August issue of the Journal I have reviewed Newer Medical Measures in Arthritis. I had little to say then and nothing to add tonight.

Prostigmin, used synergistically with mecholyl, and glycine give splendid results in myasthenia gravis. Incidentally, mecholyl has been found to be a very sensitive test for atrophine poisoning.

Allergy: Advances in this interesting field include histamine injections for the prevention or permanent relief of asthma. With the Hay Fever season upon us, you may wish that you had added some respiratory vaccine to the last half dozen pollen injections which you gave your patient for prophylactic purposes. This has been shown to aid wonderfully in giving the hay fever sufferer comfort through the pollenation season. Try it next year. We have learned, also, that pollen antigens are more potent if precipitated with alcohol, this precipitate then to be taken up as a colloid suspension in sodium chloride solution. The same may be true of bacterial vaccines.

Over and over comes the emphasis to give more calcium to the allergic patient, especially children.

Migraine continues to draw attention. Relieving measures go all the way from the simple inhalation of trichlorethylene and to the injections of ergotrate, calcium and atropine, to the rather involved cephalalgiogram of Temple Fay.

Vitamins: Vitamin of the year is surely "B". Synthesis of B, B_2, (G) and C have made possible doses of adequate strength. Polyneuritis, some myocarditis, arthritis and intestinal conditions yield to repeated doses of 500 to 1000 Sherman "B" units; while vitamin C aids materially in certain types of cataract, anemia, rheumatism and immunology. Vitamin E, from wheat germ, helps to "unsterilize" many a sterile person.

Immunology: Great strides have been made in immunizing against tetanus, (alum percipitated toxoid), poison ivy, whooping cough (Sauer), influenza, scarlet fever (intradermal), and meningococcic meningitis. Chick embryo intradermal vaccination against smallpox is a distinct advance, but the product has been withdrawn from the market temporarily because of its instability over reasonable lengths of time.

Laboratory Aids: Punch tests for biopsies are replacing more extensive manipulations for the same purpose. Bone marrow punctures and cultures, chiefly from the sternum, now are commonly done and provide valuable early information on malignancy, growth, hematology, bacteriology, immunology, et cetera.

Precipitin and agglutination tests, as well as sedimentation rate determination are becoming commonplace in most laboratories. While the Laughlen test for syphilis is being stressed in certain quarters, the government advocates still the Kolmer, Kahn, Kline or Hinton reactions.

Apparatus: The symballophone (Kerr, et. al.), and laminagraph are fascinating gadgets recently appearing on the medical horizon. Short wave continues to gain users and advocates; and X-ray is being pressed in the treatment of painful states and infections.

Simplified and improved apparatus includes oxygen therapy hoods (some using liquid oxygen) and home-made hyperpyrexia equipment.

Miscellaneous: Paraldehyde has been added to nembutal in the great struggle towards painless obstetrics.

Considered so important that the American Journal of Digestive Diseases and Nutrition published a special supplement in August, is the report by Cornell on the treatment of Cancer by a new principle extracted from nuclear material called anomin. One case is reported. Data on the next 100 or 1000 treated with anomin will make interesting reading.

In conclusion, may I ask a tolerant and cooperative attitude towards the New in Medicine. Much of it may be meteoric, falling as rapidly as it has ascended. Most of the new will reach a fair level, however, on the way up or down the scale of values. "Trial and error" may be a costly procedure, but it is by such a laborious method that medicine progresses. Medicine of 1937 marches on! Of it, be critical, always; hyper or hypocritical, never!

DISCUSSION

G. A. Hendon: Dr. McCarty's reference to transfusions by the drip method impressed me very much because of a reference to the method in the Year Book of Surgery in 1936.

At the Middlesex Hospital in London, Mariot and Kiswick carried out 87 drip transfusions giving as much as eleven pints to one patient spread over a period of 62 hours.

I have employed the plan since 1930, though I never gave that much. I am convinced that the rate of delivery is the cause of all reactions following blood transfusion. It has more to do with untoward effects than the incompatibility of the fluids. More people can take twenty drops per minute than any other amount.

I am also convinced that the incorporation of 30 grains of calcium gluconate to the liter has marked benefit when glucose solution is administered. I also consider that a study of the limits of tolerance is an essential feature of all intravenous therapy. This can be done by observing the rise in temperature which will occur when those limits are reached, and a chill when they are transcended.

Descending Pyelography in Renal Contusions.—Di Maio says that in clinically grave renal contusions with or without hematuria an immediate operation is indicated without performing descending pyelography. Cases in which the perirenal hematoma rapidly increases in volume as well as those in which there is a tendency to the development of syncope or lowering of the arterial pressure require also immediate operation without descending pyelography. The latter is indicated when the condition of the patient is good for several days after the contusion. In these cases it can show anatomic lesions or functional disturbances of the kidney caused by trauma or existing before it. Emergency lumbotomy is indicated in cases in which the local symptoms and general condition of the patient rapidly get worse, one or two days after the trauma, during which the patient seemed to be in good general condition.

WHAT IS NEW IN SURGERY*

L. Wallace Frank, M. D.

Louisville.

The greatest advance in our surgical knowledge has been along the line of thoracic surgery. For twelve or fifteen years thoracoplasty or I might say compression therapy has been employed widely in the treatment of tuberculosis of the lung. There is no question of the fact that artificial pneumo-thorax is the best method of compression therapy. Unfortunately due to adhesions between the visceral and parietal pleura not infrequently it is impossible to collapse the lung completely by this method. Following the continued use of artificial pneumo-thorax adhesions frequently develop or fluid forms in the pleural space. In those cases where due to adhesions artificial pneumo-thorax is not applicable, the operation of thoracoplasty is one method of treatment. This operation, posterior thoracoplasty, was introduced by Sauerbruch and Wilms and popularized in this country following the publication of "The Surgery of Pulmonary Tuberculosis" by John Alexander. The old operation consisted in the removal of greater or lesser segments of the ribs sub-periosteally through a posterior approach. We soon learned that the removal of small segments of the ribs did not produce adequate collapse of the lung and that existing cavities were not closed. This can easily be understood when one appreciates the fact that a resection of relatively small segments of rib could not possibly close the cavity, especially apical, because although following the removal of these segments the ribs fall downward and inward there was still enough rib left posteriorly to hold the lung up and prevent the collapse of cavities. I mention cavities because the operation is designed specifically for the closure of cavities. It must be realized that the presence of a large cavity is fraught with much danger to the patient. The retained material may be forced out and aspirated into the lower or other parts of the same lung causing extension of the disease or, and this is of much greater significance, it may be aspirated into the other lung causing bilateral tuberculosis which would of itself lessen the advisability of pulmonary compression or prevent it entirely.

Following the introduction of newer surgical methods greater lengths of ribs, as a matter of fact the entire, first, second and third rib with large portions of the other ribs were removed. This has been adequately described by Carter, Johns and others in various publications. Nevertheless following such extensive operations apical cavities often were not closed. If one considers the anatomy of the chest and realizes that the bodies of the vertebrae project into the chest cavity and the transverse processes of the vertebrae and the attached ribs come out rather far it can be easily understood that even though the rib was removed back to the transverse process that there is still a part of the lung in the vertebral gutter which was not compressed. Following the removal of the ribs the collapsed side fell downward and inward and round cavities became oval, the smaller ones usually closed.

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*Read before the Fifth Councilor District Meeting, Frankfort, August 26, 1937.

The closure of tuberculous cavities within the lung is obtained, where pneumo-thorax is employed:

1. By the actual pressure of air and in these cases as a rule no adhesions can exist about the region of the cavity because such adhesions will hold the lung up towards the chest wall and prevent its collapse The best result is obtained where no adhesions exist and where following the introduction of air the entire lung collapses. The collapse of the lung is not only from the lateral wall of the chest toward the mediastinum but from the apex downward. It is rare indeed that sufficient air is introduced into the pleural space to cause positive pressure. Only a sufficient amount of air is introduced in artificial pneumo-thorax to bring the negative pressure normally existant in the inter-pleural space to zero. Following the introduction of this amount of air in those cases where there are no adhesions, the normal elasticity of the lung causes its contraction from every direction and hence the cavity is closed.

Carl Semb of Sweden realized that this elasticity of the lung was the factor in the closure of tuberculosis cavities. His experience had been the same as ours with other types of operations and being dissatisfied with the results obtained he devised a new method of thoracoplasty. In brief his procedure is as follows:

The usual method of sub-periosteal removal of the ribs is employed and in the first stage of his procedure the first, second and third ribs are removed. He dis-articulates the ribs from the transverse process of the vertebrae and removes the ribs much closer to the vertebral body. Part of the transverse process may be removed at the same time. The apex of the pleura is held upward by adhesions and fascial bands connecting it with the great vessels and nerves which traverse the sub-clavicular space. These bands are divided. Furthermore the scaleni muscle, having their insertion into the periosteum of the first and second ribs, are likewise divided. Following these two steps the apex of the pleural space together with the endo-thoracic fascia are pushed downward. There may be other smaller fascial bands fixing the endo-thoracic fascia to the upper part of the posterior mediastinum. These bands are divided between ligatures because not infrequently small blood vessels accompany them. If sufficient collapse is not obtained by this step alone the inter-costal vessels and nerves are doubly ligated posteriorly and divided along with the periosteum of the rib allowing further collapse to take place. As the operation is continued the endo-thoracic fascia together with the pleura beneath it is brought downward by blunt dissection, and in a recent case of ours an X-ray picture following the first step of the operation showed the apex of the lung and pleural space to be at the level of the 4th rib. The rational of this procedure is easily understood, namely, we have not only compressed our cavity from the side but also from the top and we have permitted the normal elasticity of the lung to exert its force causing contraction of the lung from each side and hence closure of the cavity.

The results as published by Semb following this type of operation are so much better than any results previously obtained that there is no question of the fact that his method will be adopted by all surgeons interested in thoracic diseases especially pulmonary tuberculosis. As a matter of fact in the larger clinics this method is already in vogue.

Hyperpara-Thyroidism: Within the past two years there have appeared numerous papers upon the subject of hyperpara-thyroidism. The most prolific writer along this line is Churchill of Boston and he has had the good fortune to see probably more cases than any other one individual in the country. Such good luck does not just happen. He has seen them because his associates in the Massachusetts General Hospital especially the urologists have been on the look out for cases presenting this syndrome. The characteristic symptom of this disease is bone pain with the roentgenologic finding of multiple cystic changes in the osseous system, the so-called "osteitis fibrosa cystica." The disease is accompanied by loss of weight, malaise and bone pain, often bone tumor is suspected but the true character of the lesion may be easily demonstrated by aspiration biopsy. In the older days multiple myeloma was not infrequently the diagnosis. Along with these bone changes and loss of nutrition probably the most common finding is the presence of urinary calculi. I want to emphasize this feature to my urological friends so that they may be on the lookout for these cases. In many patients having urinary calculi a correct diagnosis is reached only by proper laboratory studies, and the diagnosis of hyper-para-thyroidism is based upon the laboratory findings.

In this disease there is a loss of calcium from the bones, hence the cystic appearance. We would therefore expect to find and we do find an increase in the blood calcium. With an increase in the blood calcium there is also a drop in the blood phosphorous and the ratio of blood calcium to blood phosphorous becomes much greater. There is also an increase in the blood phosphataze. With the increase in the blood calcium there is naturally an increase of calcium elimination through the urinary tract and therefore renal calculi are rather frequent. Patients having repeated attacks of renal colic should be suspected of hyperpara-thyroidism and proper blood studies made.

The treatment of this disease is surgical. The condition in a way resembles hyper-thyroidism. It may occur as a result of two types of increase para-thyroid activity, one due to the presence of an adenoma of the para-thyroid, or secondly to a diffuse hyperplasia of the para-thyroid glands. The cure of the disease consists in the removal of the adenoma or the removal of a sufficient amount of hyperplastic para-thyroid tissue to bring the activity of this gland within normal limits.

The surgery of para-thyroid disease differs from that of the thyroid in that the location of the para-thyroid bodies is not constant. They normally lie, a pair on each side, outside of the posterior capsule of the thyroid gland. As I stated their position is very variable and they may even be found in the anterior and posterior mediastinum and have been found deep within a sulcus of the thyroid gland. The proper amount of surgery should be done at the first operation. If it is not, a marker, usually black silk, should be placed along side the previously discovered para-thyroid body so that at the second operation, should such be necessary, this minute gland will not be overlooked in the separation of adhesions due to previous surgery.

Idiopathic Hypertension: Would that I could offer you and the public a definite promise of success in the surgical treatment of hypertension. Unfortunately though the reports from certain clinics have been rather glowing, the end results have not been up to expectation. The first steps along this line had to do with peri-arterial sympathectomy and the denervation of the adrenals. Later Adson and other works in this field advocated not only the removal of one and part of the other adrenal or a partial bilateral adrenalectomy but also a division of the splanchnic nerves below the diaphragm. The reported results following this operation were fairly good and yet Heuer in a recent article in the American Journal of Medical Sciences states that the end results are not satisfactory. Peet, in a paper before the recent meeting of the American Medical Association in Atlantic City this last June, presented a series of cases which had been treated by surgical division of the splanchnic nerves above the diaphragm. The actual drop in blood pressure was not as great as had been anticipated. It is true that a great many of his patients were relieved of the subjective symptoms nevertheless the blood pressure remained high.

One of the great advances in medicine and surgery was the work of Goldblatt. He found that by reducing the blood flow through the renal artery, that is to say the kidney, that a rise in blood pressure could be obtained in experimental animals. Personally I think that this is a step forward in the solution of the problem of hypertension. It has always been my belief that the kidney played a part in the causation of high blood pressure. I have always felt that regardless of the fact that the urinary findings were normal, that the blood chemistry was normal and that the elimination of sulphone phenophthalein and other dyes was satisfactory so long as the blood pressure remained high, that, following a diminution of this pressure all the evidences of kidney disease, so-called "Bright's Disease" became evident. Apparently a pressor substance is elaborated by the kidney in which the circulation is deficient that acts on the peripheral and splanchnic vasculature causing an elevation of blood pressure. Experimentally it has been proven that the division of the splanchnic nerves does not inhibit the effect of this substance. More work must be done along these lines and we sincerely hope that a solution to this problem will soon be found, and we must agree with Heuer that the results of the surgical treatment of hypertension are so-far disappointing.

Cholecystitis: The literature of recent months had allotted a great deal of space, and certainly the thoughts of a great many individuals have been devoted to the surgical treatment of gall bladder diseases. The problem presented to us is essentially this: In the presence of an attack of acute cholecystitis should we wait until the acute symptoms have subsided and then operate, or should we treat them as we do cases of appendicitis, operate as soon as diagnosed. It has been shown that many cases of acute cholecystitis perforate and other gall bladders become gangrenous within four to five days following the on-set of the symptoms.

It is our belief the cases of acute cholecystitis seen early after on-set of symptoms should be treated just as appendicitis are when seen early namely, by removal of the diseased organ.

However, if a sufficient time has elapsed before the patient is seen by a surgeon and no complications have developed we believe in the conservative treatment and deferred operation. Nature if undeterred tends to localize all abdominal inflammation. It is better in our opinion to wait and drain an appendiceal abscess than it is to rush into an unlocalized peritonitis as a result of an acute appendiceal inflammation and likewise we think that those cases of cholecystitis which have gone on for four, five or six days and, show evidences of a peri-cholecystic abscess should be treated expectantly and later the abscess opened and drained. The underlying pathology of either case can be more safely treated after all the acute symptoms have subsided and interval operation is much safer than a radical operation at the time of the acute peritoneal involvement.

Cancer of the Breast: Almost every surgical journal that has appeared within the last year or year and a half has contained an article on "Cancer of the Breast." Today we are no nearer the solution of this problem than we were many years ago. I was informed not so long ago that the end results obtained in the treatment of mammary malignancy have changed but little since the first statistics were available after Halstead introduced his radical operation. Halstead gave us the operation that is in use today. We would not expect the results from surgical treatment alone to change from that obtained by his master hand. Nevertheless with the introduction of roentgen therapy a step forward has been made. It is within the memory of all of us that post operative X-ray therapy was first employed in the treatment of breast cancer. One English surgeon found that in his five year experiences there was an increase of 5 per cent in that group treated post-operatively by deep X-ray therapy as compared to the group in which this measure was not used.

Within recent months there has been advocated the pre-operative roentgen treatment of cancer of the breast. Like many things it is nothing new but the presentation of a form of treatment advocated long ago. The complete regression of breast cancer so far as clinical manifestation is concerned can be obtained by X-ray therapy. However, there is always the uncertainty that all the cancer cells have not been completely destroyed and hence eight to ten weeks following X-ray treatment radical removal of the breast should be employed. Adair in an article appearing not so long ago stated that a study of the pathological material obtained from patients treated pre-operatively by X-ray showed that in approximately thirty per cent all cancer cells had been killed. Unfortunately this is not true of glandular involvement and therefore it is advocated that following x-ray therapy radical operation should be employed and later in order to add an increased factor of safety which our English Confrere reported we should urge post-operation roentgen treatment.

It has been demonstrated experimentally that one of the big factors in the production of mammary cancer is the hormonal stimulation given that organ by the estrous producing substance elaborated by the ovary. It has furthermore been shown that there is an hereditary tendency to malignancy. Experimentally mammary cancer has been produced in male mice following the administration of an estrous producing substance. Proceeding the development of cancer that condition called chronic cystic mastitis is produced by such procedure. Furthermore it has been shown in a study of a series of breast cancer occurring in women past the menopause that approximately fifty per cent of those developing mammary malignancy after the age of 50 had menstruated to their fiftieth year. How long the ovarian activity continues after the cessation of menstruation is not known. Certainly, however, one may easily conceive that this hormonal secretion continues after menstruation ceases. Therefore it is not amiss to come to the conclusion that in those cases of breast cancer occurring in the fifth decade the hormonal stimulation plays an important part.

Years ago castration of the female with mammary cancer was advocated as a method of treatment. It had been the observation of many that following removal of the ovaries there was a regression of the neoplasm. This method of treatment like many others was empiric and later forgotten. It has recently been re-discovered and now castration or the ablation of ovarian function is advocated in all cases of cancer of the breast occurring in women who are still menstruating. No longer is it necessary to actually remove the ovaries but their function is stopped by the use of the roentgen ray. Graham in a discussion before the American Surgical Association in New York this past June cited a case of mammary carcinoma with diffuse metastasis in a rather young woman. Surgery was out of the question and roentgen therapy of the ovaries was the only treatment employed. Following this treatment by which the hormonal stimulation of the breast was removed there was a marked recession of not only the growth and metastases but a marked improvement in the general condition of the patient was noted.

Our reading and observation has lead us to formulate the following method of treatment of breast lesion: In case the diagnosis is uncertain we believe that frozen section study of the removed tumor should be made and if malignant a radical operation then done at once followed by deep X-ray therapy. In the other type of case where there is no doubt as to the diagnosis we are firmly convinced that adequate X-ray therapy should first be given, that a sufficient length of time be allowed to elapse, usually eight to ten weeks and that then radical mastectomy be employed followed by a post-operative course of X-ray therapy. In all women having breast cancer who have not reached the menopause ovarian activity should be abolished either by radium or x-ray.

No doubt many patients who have been operated for mammary cancer consult you for exaggerated symptoms of the menopause. We beg of you to remember the fact that hormonal stimulation increases activity of breast neoplasms and therefore that such cases be not given ovarian derivatives which are so commonly used in the treatment of the climacterium.

In conclusion I trust that I have not bored you by the material that I selected to present but I did feel as I stated in the beginning that you would perhaps be more interested in a detailed presentation of a few subjects rather than a hurried mention of many facts.

Effect of Epinephrine on Blood Pressure.—Grill describes a case of Addison's disease in which he tried treatment by means of the intravenous injection of epinephrine. It was found that the epinephrine increased the patient's blood pressure from 75 mm. of mercury systolic and 50 diastolic to 120 systolic and 80 diastolic and kept it at this level for about forty hours. However, there was no perceptible improvement in the patient's general condition. After the administration of epinephrine was stopped, the blood pressure fell again, there was a marked decline in the general condition and the patient died. The postmortem examination revealed complete destruction of both adrenals by caseous tuberculosis. The author further discusses the epinephrine requirements. On the basis of earlier observations and experiments, he reaches the conclusion that the effect of a certain dose of epinephrine is not the same at different levels of blood pressure either in the same or in different persons. In the case of extremely low blood pressure, the effect of the administration of epinephrine is unusually slight. In the case of normal blood pressure the effect of epinephrine becomes increasingly poorer.

CHRONIC BRIGHT'S DISEASE*

G. W. PAYNE, M. D.

Bardwell.

In recent years the modern writers have tried to classify Nephritis into several distinct types. In fact, all Nephritides are of a mixed type. Classification based upon Pathologic lesions found after death is not practical for the living because we have no methods by which accurate diagnosis of the structural changes in the kidney can be made during life. Why worry over the new classifications when the two types described by Bright can be differentiated in the living. Chronic parenchymatous nephritis and interstitial nephritis. The causes of these two types are unknown. We do know, however, that nephritis is hereditary and that it can be traced back for two or three generations.

In chronic parenchymatous nephritis the kidney is enlarged, later it may be contracted and is a disease of younger people, twenty to forty years of age, while in chronic interstitial nephritis you will have hard contracted kidney and it is found in the aged. Men are more frequently affected than women.

SYMPTOMS OF CHRONIC PARENCHYMATOUS NEPHRITIS

There is gradual failure of health; headache, dull wandering pains in the muscles, nausea, mental dullness, attacks of indigestion and insomnia.

When the disease is well established the symptoms are more frank and you will have edema and some anemia.

The edema usually appears in the face or ankles. Sooner or later effusion may occur in the abdominal cavity, and the entire body takes on a bloated appearance. Subcutaneous edema may cause rupture of the skin on the legs. Edema of the lungs causes dyspnea, severe cough with large quantities of frothy sputum. You may have cerebral pressure due to edema of the brain. There is an increase in the chloride content of the blood. The blood pressure is usually normal but may be elevated a little.

The functional capacity of the kidney and the blood nitrogen is only slightly impaired if at all.

The urinary findings are characteristic, albumen is always present and in most cases large quantities one to six per cent. You will find microscopically granular and hyalin casts as well as epithelial casts.

The quantity of urine is normal or diminished.

Symptoms: The onset is slow, and the majority of these cases exist for years before clinical recognition is absolutely possible.

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*Read before the Southwestern Kentucky Medical Society, at Arlington, August 9, 1937.

Very often some other disease will bring out your kidney lesion, (especially influenza or pneumonia).

I have noticed in most of these cases early symptoms that very few writers mention pollakiuria, dead fingers, dead toes, cramps in the calves of the legs and cryesthesia.

Occasionally you will have a patient come to you with a moderately high blood pressure and that is about all you can find wrong; if you will watch this patient you will diagnose his case as one of chronic interstitial nephritis. I believe we fall down in these cases more often than any thing else, because we are unable to find casts and albumen we dismiss them without a diagnosis. The high blood pressure is all you will find in the early cases.

Edema is rare and dropsy of serous membranes is exceptional. On the other hand dyspnoea, headache, nose bleed and retinal hemorrhage is frequent.

Cardiac troubles are always present; hypertrophy and gallop rhythm. Patient may complain of dyspnoea on exertion, palpitation, precordial distress, forcible beats of the heart or anginal attacks.

The pulse is hard and the arterial tension is high.

There may be gradual loss of flesh, strength and energy. Patients become nervous, disturbed sleep, pains in the limbs, myalgia, epigastric fullness and flatulance, headache, vertigo, tinitis aurum, and may have attacks of aphasia or hemiplegia. These patients invariably have specks floating before the eyes, the blood pressure will run any where from 200 to 300 M. M. systolic, the blood vessels are hard and tortuous, the heart is enlarged and the left ventricle is hypertrophied.

Nearing the terminal stage you will find dyspnoea, asthmatic attacks, periodical distress, gastric disturbances.

The urine is markedly increased especially at night. There is a small amount of albumen in the urine with a few hyalin and granular casts. Uremia is common in interstitial nephritis.

Treatment: We will start out by putting our patients on a proper diet and this does not have to be as rigid as we once thought. Take the Eskimo, he lives on a high protein diet yet he is no more apt to have vascular or renal disease than we are. Give your patient fruits, cream, milk, cream of wheat, sugar, eggs, broiled steak, chicken, potatoes, corn, baked fish, bread salt free, butter salt free, and tomatoes. In all cases where there is edema of the skin or lungs, cut out your salt. Remove fluids from the body by diuresis, by magnesium sulphate, with cream of tartar. Limit your fluid intake. Give them ammonium chloride in large quantities 75 to 200 gr. every twenty-four hours. Diuresis, loss of weight and disappearance of edema will follow the use of this drug. It may cause an increased acidity of the urine, but not apt to cause acidosis. If so discontinue for a few days. Calcium chloride should be given in edema cases.

In the interstitial type in the late stages the same diet and same treatment for edema; for anemia Basham's mixture may be given.

When the blood pressure is too high, I would use sodium nitrate, potassium sulpho cyanate, Tr. aconite with potassium iodide, epsom salts, sedatives as needed and rest.

When the heart is failing I would not hesitate to give digitalis in some form.

In edema of the lungs give atropine sulphate as indicated. Hot packs for diaphoretic effect is indicated especially in uremia. Be careful about pilocarpine as you may drown your patient in his own secretion.

THE TREATMENT OF MENINGOCOCCIC MENINGITIS*

F. H. Hodges, A. B., M. D.

Charles Shields, M. D.

Pikeville.

Meningococcic Meningitis has for years had a high mortality in the hands of those who see and treat large numbers of cases. This is even true in cities and clinics where the facilities for diagnosis and treatment are the best. In the rural districts the mortality is even higher. This greater mortality is easily accountable in view of the fact that the physician practices under conditions where he does not often have laboratory facilities and, in many cases, the serum for antitoxin for early treatment. During the period from January 1, 1936, to January 1, 1937, over one hundred cases of meningitis were reported in Pike County, Kentucky. Of this number we wish to present seventy-five unselected cases treated by the authors. A large number of these cases were brought in for diagnosis and treatment several days after the onset of the disease.

At the beginning of the epidemic a great number of these cases were incorrectly diagnosed and consequently treated for other conditions, especially when atypical symptoms and signs were present. After the physicians became more or less "meningitis-minded" the period from the onset of the first symptom until treatment was instituted was greatly reduced. Of the seventy-five cases here reported the average time from the onset of the first symptom until treatment was started was four days. Unquestionably, a great number of these cases could have been saved had the treatment been started much earlier. It is well to remember that the means of securing a low mortality in treating meningitis is the early administration of the antitoxin.

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*Read before the Pike County Medical Society.

Several of the cases of the fulminating type when first seen after the onset of the symptoms were either delirious or unconscious. Even with large doses of the antitoxin it was not possible to save them. One girl, seventeen years old, was seen four hours after the onset, at which time she was unconscious. Her respiration was 30, pulse 140, and she was beginning to show faint cyanosis. Ten hours before the onset the patient felt quite well. The spinal fluid was purulent and under considerable pressure. Immediately large doses of the antitoxin in 5 per cent glucose were given in the vein. She grew progressively worse and died in thirty hours after the onset of the first symptoms. Such cases as this one show the overwhelming toxemia, which, fortunately, only a small percentage of these cases have.

From the available figures the mortality throughout the country with all forms of treatment is approximately 40 per cent. Petty reported a mortality of 6 per cent in the cases treated in an industrial community, and the mortality of the seventy-five cases treated and here reported is 16 per cent. Complications and sequellae were comparatively rare. Of these cases, one resulted in complete deafness, one in idiocy, and another of an acute purulent sinusitis which ruptured into the nasal cavity a few hours before death. All cases were treated in homes, there being no building available in this county to take care of such cases.

The average age of the patients was 13.8 years. The youngest was two months and the oldest was sixty years. The commonest symptoms were stiffness of the neck which occurred in 79 per cent of the cases, headache (mostly occipital) in 76 per cent of the cases and nausea and vomiting in 59 per cent. Delirium and unconsciousness occurred in 44 per cent of the cases. This latter condition shows the extreme toxemia in which many of the patients were suffering at the time they were first seen for treatment. Of this 44 per cent, or thirty-three cases, the mortality was, of course, higher. This we attributed to the period of time from the onset until treatment was begun. In one case, the father who was in the World War, made the diagnosis and brought his son in for treatment, saying he remembered only too well the cases he saw during the war. Confirmation of the diagnosis of each case was made by the presence of a Gram negative intracellular diplococci in the spinal fluid.

The specific treatment used in all cases was meningococcic antitoxin, supplied in 30 c. c. vials of 10,000 units each. The use of the antitoxin was based on the belief that the patient was suffering from a toxemia produced by the meningococci, the action of which was almost wholly confined to the nervous system. In the early stages of the epidemic it was thought that frequent spinal punctures to drain the spinal canal and relieve the increasing pressure was important for the recovery of the patient. This procedure often relieved headache, but otherwise was not necessary for the recovery of the patient. The amount of spinal fluid which was removed from the spinal canal was replaced with antitoxin up to, and not exceeding, 90 per cent of the amount of spinal fluid drained away. From the results obtained in the more recent cases, we are of the opinion that such frequent drainage of the spinal canal is not necessary. Only where persistent and violent headache occurs, is more than one drainage done. In a large percentage of the cases one puncture was done for diagnosis only.

The average number of treatments given to each patient was three. The average amount of antitoxin given to each patient was 63,000 units. Some cases were given as high as 200,000 units before the symptoms and temperature abated. This called for the frequent intravenous injections of not only large amounts of horse serum, but the fluid used to dilute the serum. Before the administration of the antitoxin either by vein to an adult or in the muscle of children, it was necessary to determine whether the patient was sensitive to this foreign protein. To determine this, it was necessary to inject .05 c. c. of the antitoxin intracutaneously. If there was no reaction within fifteen or twenty minutes, we found it safe to proceed with the treatment. In the event that the patient was sensitive to horse serum it was better to desensitize the patient before proceeding with the administration of the antitoxin. In the event the patient did not show improvement within twenty-four hours or became worse within twelve hours it was necessary to repeat the administration of the antitoxin. When doing this, it was, of course, necessary to again determine if the patient was sensitive.

The amount of antitoxin given to a patient depended upon the severity of the attack and the age of the patient. We found it wise to give too much rather than too little. The average adult seen early was given from 40,000 to 60,000 units of the antitoxin in 400 to 500 c. c. of 5 per cent glucose. It was warmed and given very slowly in the vein.

Eight minims of adrenalin were sometimes added to the mixture and given directly into the vein. Eight minims of adrenalin should be available in a hypodermic syringe to be injected should the patient show any signs of protein shock. Careful attention was given to the bowels and the urinary bladder. The very sick patient often required enemas and catheterizations. The early desire for water and food and the diminishing or absence of headaches was considered a good sign.

From the experience obtained in the treatment of these cases the most outstanding fact learned in the early recovery and complete cure of the patient was the early diagnosis and administration of large doses of antitoxin. It is our opinion that even with a mortality of 16 per cent it is improvement over the general mortality reported elsewhere. This figure could be lessened if the cases could be seen early and the treatment begun accordingly.

THE TREATMENT OF CHRONIC FUNCTIONAL DIARRHOEAS*

J. Murray Kinsman, M. D.

Louisville.

I am not speaking today of amoebic or bacillary dysentery, or of ulcerative colitis, or of tuberculous enteritis; all these conditions have demonstrable lesions in the intestines and their stools contain blood or pus or both. The diarrhoea which occurs is called "organic" because organic disease is responsible for it. I am speaking of that group of conditions in which diarrhoea is the outstanding symptom but where the stools contain no blood or pus though they may contain mucus, and where no organic lesion can be discovered in the intestinal tract. The stools do not contain pathogenic amoebae or any bacteria of usual pathogenicity.

Such cases are not uncommon. The diarrhoea which results from what one may call "incompatible foods" such as unripe fruits, from poisons, from botulism, etc., is an acute condition of known etiology, and is of brief duration. This type of case does not concern us here. It is the chronic, prolonged diarrhoeas, where the etiology is unknown or obscure, which I propose to discuss today. These cases are sometimes very baffling as to treatment; sometimes they respond readily to quite simple therapeutic measures.

It is not my intention to go into great detail concerning all the various causes and types of chronic functional diarrhoea. Some of the causes, such as pernicious anemia and sprue, will be recognized by a more or less routine complete examination; such conditions as tumors of the pancreas, interfering with the production of the normal digestive ferments are seldom seen, even less seldom recognized and perhaps rarely treated satisfactorily. So I propose to confine myself to a discussion of the usual type of case which we are all most likely to see in our routine practice. I shall take the liberty of using the "case report" method of presentation.

Case I. A graduate nurse, age 25, for two months had been having a diarrhoea characterized by an urgent desire to go to stool immediately after each meal, and seldom at any other time. The stools were liquid. She had lost twenty pounds in weight. Routine physical examination was unimportant. Blood examinations and urinalysis were negative. Stool examinations were negative. Gastric analysis showed absence of free HCl. She was placed on dilute HCl with each meal and immediately the diarrhoea stopped. A few weeks later, tiring of constantly having to "take medicine" she stopped the acid and the original symptoms at once returned. Upon resuming the acid, they cleared up again.

This story is so familiar to all of us that I almost feel I owe an apology for quoting it. However, I do include it to illustrate the different methods of handling the various types of diarrhoea. It also gives me an opportunity to emphasize the corrollary, that not all cases of functional diarrhoea with achlorhydria respond to acid therapy. Nevertheless, I am sure that most of you feel as I do the sense of satisfaction and hope when a patient with diarrhoea is also found to have an achlorhydria. It makes us feel that the patient has at least a 50-50 chance of being relieved by a very simple means—the administration of hydrochloric acid. When our hopes do not materialize, then we really have to "put on our thinking caps" and start down the long road toward ultimate curing of the patient.

Case II. A 50-year-old white man, a baggagemaster on a railroad train, had had diarrhoea for seven years, sudden in onset. Three years later he consulted a physician, who placed him on a diet upon which he showed very temporary improvement, but shortly afterwards he became worse. Then a complete gastro-intestinal examination was made, which revealed colonic stasis with a large ptosed atonic bowel. The stool examinations were entirely negative. Further treatment with diet, bismuth and other drugs produced absolutely no improvement. His bowels, during these seven years, had been moving from six to eight times daily, the movements being watery, loose or soft; only occasionally were they even semi-formed.

Re-examination, when I saw him seven years after the onset, showed a red and angry rectal mucosa and slight tenderness over the sigmoid. Stool examinations were entirely negative except for Bargen's streptococci. Another gastro-intestinal x-ray showed a large hypotonic colon filled with gas, but without any evidence of organic changes.

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*Read before the meeting of the Tenth Councillor District at Lexington, Ky., June 17, 1937.

Gastric analysis showed a high acidity, the free HCl being 77° and the total acid 90°.

He was placed on a low residue diet with vitamines B and D. added in the form of Brewer's yeast and Drisdol. Within a week he began to show improvement, the number of daily bowel movements decreasing at first, followed by an improvement in the form of the stools. Within three weeks he was having one or two normally formed stools daily and was gaining weight. One year later, he still remains free from diarrhoea, except for occasional episodes when he strays from his diet. He has learned that there are certain foods which he cannot take care of.

Here, then, is a case very similar to the first one—sudden onset of diarrhoea, functional in nature—but differing in that there was no achlorhydria; in fact the acid was abnormally high, I had intended, if the regime as started had not been successful, to administer an autogenous vaccine of the Bargen's streptococci. However, that did not become necessary.

It is, perhaps, somewhat speculative as to whether the low residue diet alone or the vitamine B was the effective factor in this case. The weight of evidence is, I think, in favor of the diet, for he has continued this steadily, with judicious additions ever since, but after a few months he stopped the Brewer's yeast without any return of his symptoms.

These two cases illustrate two methods of treatment. The next and subsequent case reports will illustrate a third method of treatment—a comparatively new one.

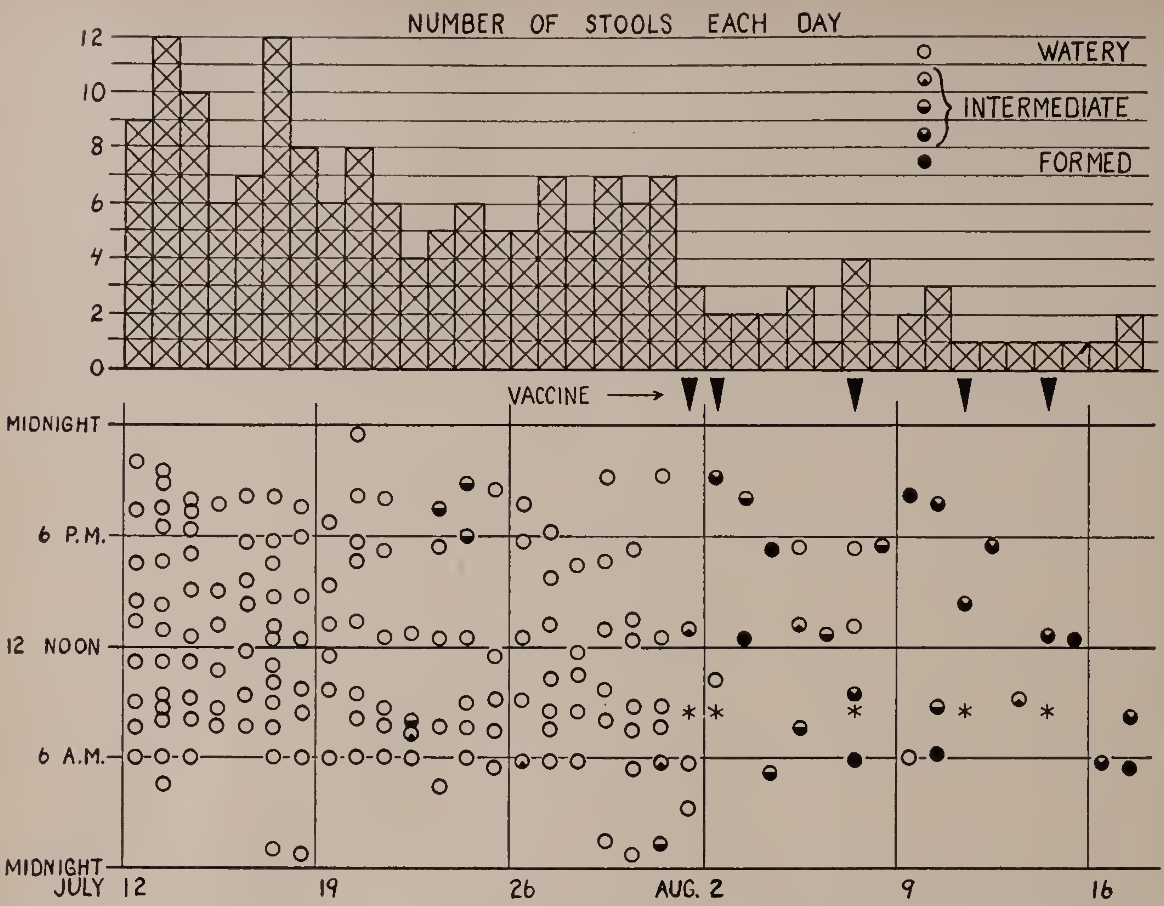
Case III. A 45-year-old Catholic nun consulted me on June 24, 1936 complaining of diarrhoea of sudden onset about four weeks previously. She had from seven to fourteen watery stools a day, without pus or blood, but with occasional mucus. She had lost some weight. The only treatment she had had was bismuth, which had had no effect. Routine gastro-intestinal investigation revealed no evidence of any organic lesion; gastric analysis showed a normal acidity. Due to certain circumstances, patient could not remain in town for treatment, so she was sent home on a low residue diet with Brewer's yeast and bismuth. Two weeks later she returned to the hospital stating that she had been no better while on the low residue diet but that, on the contrary, she had been having ten to twelve stools a day, in spite of paregoric which she had also taken. She was now put to bed and the low residue diet and Brewer's yeast were continued, with paregoric and bismuth added.

At about this time I chanced to see a report by Dr. Mateer and others from Detroit, Michigan, on the treatment of chronic functional diarrhoeas by a detoxified colon-bacillus vaccine. His results had been so excellent that I immediately set about trying to obtain a supply of the vaccine which was not then commercially available.

Due to certain complications involving patent rights, the vaccine did not become available until August 1, 1936. This delay, however, served a useful purpose for it provided a control period; duing this period she adhered rigidly to the low residue diet, paregoric and bismuth, and at one time she was given dilute HCl in spite of the normal gastric acidity. However, in spite of all this, during this control period she continued to have from five to twelve watery stools daily without a single day of fewer than five bowel movements (she kept very accurate records of these during her entire course of treatment—see figure). On August 1 she was given an intra-dermal injection of 0.05 c. c. of the vaccine diluted fifteen times with sterile water. After one stool shortly following that dose, she went twenty-one hours without another bowel movement. On August 2 she was given 0.05 c. c. of the undiluted vaccine intradermally. On this day, and on the subsequent day she had two movements each day. An interesting observation was that nausea which had followed each meal ever since the diarrhoea began, disappeared in two days.

In all, the patient received five injections at intervals of three or four days. By the end of the course she was having one stool a day and this was practically formed. Following this course she returned home and resumed her duties. During the year which has passed since treatment was begun, she has been having from one to three stools daily. It has been necessary to give her a dose of the vaccine at approximately monthly intervals. Following each dose the bowel function becomes essentially normal, with one or two formed stools daily, and occasionally none; after three or four weeks the stools become somewhat looser and slightly more frequent, though they never exceed three in number in any one day—except following some definite dietary indiscretion. She has, at the same time, been able to broaden her diet, though certain foods in particular still upset her. Her general health has been excellent and she has gained weight.

Case IV. A 23-year-old white woman, with a history of tuberculosis of five years duration, and carrying a pneumothorax constantly, had had intermittent diarrhoea during the entire five years of her tuberculosis. The periods of diarrhoea averaged about one month in duration with intervals of comparative freedom of a few days to a few weeks. During the diarrhoeic periods she had from six to eight watery stools daily and, in



The upper part represents the total number of stools each day and the lower the nature of the stools and their distribution through the twenty-four hours of the day. The blank circles represent liquid stools and the solid circles, formed stools, the different degrees in between being represented by the different amount of blacking of the circles. The down-pointing arrow-heads represent the days on which the vaccine was given and the asterisks beneath, the time of day. The spaces between the upright lines represents weeks.

the intervals, one to two. The stools contained no blood, pus or mucus. Lower abdominal cramps accompanied the passage of the stools and more or less constant nausea was almost as troublesome as the diarrhoea.

She had been very thoroughly investigated at Waverly Hills and the staff felt certain that there was no tubercular involvement of the intestinal tract. Proctoscopic, x-ray and complete stool examinations were entirely negative. Gastric analysis showed absence of free HCl.

She was first given a low residue diet and dilute HCl with some fairly rapid improvement, especially of the nausea; but this improvement reached a standstill without any change in the character of the stools. Shortly thereafter she was started on the detoxified colon bacillus vaccine. After five injections she began having formed stools and the number of movements had decreased to two to four a day. After two more injections, she began having one or two formed stools a day. The nausea had disappeared.

She then stopped the injections of her own accord, and six weeks later the diarrhoea having returned, resumed them. The first injection was followed within three days by a return to one formed stool daily. Since then she has been put on Amphojel and has maintained one or two formed stools daily with no nausea.

Comment: The interruption in treatment here further corroborates the suggestion that the vaccine was responsible for the disappearance of this patient's symptoms, for when diarrhoea returned, after the first course of treatment had been discontinued, it promptly disappeared following another injection. Moreover, she has now been essentially free from diarrhoea for six months—a much longer period than at any time in the last five years, when a month was the maximum time she could go without a return of the diarrhoea. Whether the aluminum (Amphojel) played any part in maintaining normal bowel action is a question that might be raised. But she had already had fairly normal bowel action for four months before the aluminum was started, so that it certainly played no part in stopping the diarrhoea.

Case V. A 33-year-old Catholic nun had had diarrhoea for about a year with from two to eight stools daily. She had had a a long history of indigestion with some temporary improvement following appendectomy. Her stools were watery at times, formed at others. Complete gastro-intestinal studies were negative except for visceroptosis.

She was given a course of six injections of detoxified colon bacillus vaccine with eventual, almost complete, disappearance of the diarrhoea, and improvement in the indigestion, although this still remains intermittently troublesome.

DISCUSSION: The first two cases reported represent very satisfactory response to simple methods of treatment. The remaining cases did not respond to such simple therapy. Case III in particular was given the usual therapy over a long period of time under controlled conditions and so I think there can be no doubt that her improvement may be attributed directly to the detoxified colon bacillus vaccine.

So far as I know, this vaccine was first used by Mateer and his associates at the Henry Ford Hospital in Detroit. They and Morris and Dorst of Cincinnati have done most of the work on colon bacillus vaccine therapy in functional diarrhoeas. They reported their results in December 1935. In a group of thirty cases of chronic functional diarrhoea, they obtained complete relief of symptoms in eighteen cases (60%), marked relief in 6 cases (20%), moderate relief in 3 cases (10%), slight relief in one case (3%), and no relief in 2 cases (7%). They noted that four of their cases showed marked improvement after the first injection—a result I obtained in my first case, and noted by one of my confreres in another. Only five injections were necessary to give relief in over 50 per cent of their cases. They also reported the necessity, in most cases, of giving follow-up injections at intervals of about a month, to continue the good effects.

It might be worthwhile here to mention that Mateer et al also obtained surprisingly good results from the vaccine in other types of colon disturbance, notably chronic toxic vertigo, chronic headache, and the unstable colon.

The mechansim of the action of B coli vaccine in arresting hyperperistalsis is not yet explained. It is known, however, that in certain individuals B coli, a normally non-pathogenic inhabitant of the intestinal tract, may acquire virulence. The Germans have been most active in studying this problem. Several investigators believe that the organism may be of etiologic significance in the enteric diseases of childhood. Several others showed that this organism may play some part in the causation of various intestinal disturbances. Adams and Goldschmidt demonstrated that B coli can be toxic.

Weinstein and Rettger showed that cultures of B coli communior increased motility of excised strips of the ileum and colon. They found the reactive material to be present in the centrifuged supernatant fluid and in the filtrate. They regarded the reaction as specific since several other non-intestinal bacteria did not have any such effect.

Mateer and Baltz refuse to discuss the mechanism of action of the vaccine, but assume it to be an allergic mechanism or a non-specific protein reaction. In a later report they discuss the indications for, contra-indications to, technique of, and measures which should accompany colon bacillus therapy$_7$.

SUMMARY

Cases of chronic functional diarrhoea are presented showing response to three different methods of treatment.

(1) Dilute hydrochloric acid alone, in the presence of achlorhydria.

(2) A low residue diet with vitamine B.

(3) Detoxified colon bacillus therapy.

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*The Colon Bacillus Vaccine was generously supplied to me through the courtesy of the Wm. S. Merrell Company, Cincinnati, O.

HIRSCHSPRUNG'S DISEASE, A SUB-SYNDROME OF CONGENITAL HYPOTHYROIDISM*

R. ALEXANDER BATE, A. B., M. D.

Louisville.

The case of Hirschsprung's Disease presented by Doctor Hancock (who has graciously permitted this discussion) displays a diathesis of probable etiologic importance in the following symptoms of hypothryroidism:

No palpable or observable cervical thyroid gland, which should have begun its formation by a median evagination of the endoderm, from the floor of the pharynx, between the first and second pharyngeal pouches, at about the fourth week of fetal formation.

It is believed the somatic changes in this case are due to the endocrine imbalance, or endogenous deficiencies existant from embryonic hypothyroid activity. At this period of fetal growth there is no thyroid colloid for iodine storage. Colloid may not be formed until between the fourth and sixth months of gestation; hence maternal lack of thyroid secretion, or iodine in circulation may be a material factor in prenatal or congenital hypothyroidism. Development of the embryonal, ectoderm, mesoderm and entoderm from unfertilized ovum and sperm is the effect of the component thyroid hormone. So too, is a thyroid constituent essential to the further differentiation of the germ layers into their respective anlagen. In other words, the thyroid hormone is not only essential to cleavage but is also essential to fertilization.

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*Read before the Louisville Society of Medicine June 3rd, 1937.

Transmission of congenital hypothyroidism through the male gamete is an accepted factor in hereditary hypothyroidism, and is to be decided in this case. Vitamin B deficiency, in either sex is to be listed.

Embryonic differentiation is believed to be one of the chief functions of the early forming fetal thyroid. Mal differentiation is perhaps most frequently observed in the endocrine and autonomic nervous systems. As illustration of the latter, we invite consideration of Hirschsprung's syndrome; coarctation of the aorta and extra systole of childhood.

Prenatal hypothyroidism is accompanied by hypopituitarism.

Anomalies of fetal hypothyroidism, or congenital stigmata, are continued postnatally. Postnatal development and function in both the endocrine and non-endocrine systems are maintained by thyroid activity.

After birth and especially in the preadolescent period the pituitary functions are especially concerned in the growth and development of all of the organs and systems of the economy.

This subject falls under the classification of congenital hypothyroid and hypopituitary activity.

The cortical portion of the suprarenal likewise exercises an influence upon growth and upon the cerebral convolutions. Anencephalic monsters are found to possess no cortical suprarenal.

The cortical portion of the suprarenal is derived from the mesoderm and is often deficient in congenital hypothyroidism. In this case the short occipito-frontal measurement, flat cranium and subnormal development observed, are at least suggestive of adrenal cortex deficiency.

The chief symptom in this case lies in the entodermal tissues of the colon, the megocolon with its own syndrome, which diverts from the true hypothyroidism to the group symptoms described by Hirschsprung in 1885.

Hypogonadism is apparent in this case; and is almost always found where hypothyroid and hypopituitary functions determine diathesis.

There are no hyperthymic stigmata in this case; but the lack of growth and subnormal mental development suggest congenital hypothymic activity.

Where hypothyroidism is associated with obese tendencies there is probably thymic function, and stigmata of hyperthymism may be present; this case is much more like the asthenic subject of dysendo crinosis seen after early infantile exanthemata, or especially in cases seen after whooping cough of babies of a few weeks old, fatigability marks this case.

Radioscopy best displays tell-tale delayed bone-center formation, and thin skull bones of hypothyroidism. Which it is believed will be found in this case, with its visible skull abnormalities.

If the parathyroid, in the human, assumes the postnatal thymus functions, bone changes of adolescents may not be as characteristic as at other periods. In this subject there is no spacing of the teeth, which are well formed, but suggestively deep-set in the gums as in hypothyroidism. In this case the teeth are thick and rather crowded.

In thyro-aplasia, or congenital absence of the thyroid gland, the nervous system shows deficiency in convolution in the central brain, and the peripheral and autonomic nervous systems exhibit signs of degeneration and retarded development. Such is the case in Hirschsprung's syndrome; congenital allorrhythmias and stenosis of the aorta. Tertamota should be studied in this connection, since they evince an intermingling of all three germ layers. Faulty development of the blastomere is undoubtedly of endocrine origin.

Thyro-aplasia is rare and the subject dies in childhood if not in infancy; so that some thyroid cells are possessed by this 18-year-old subject, but the colloid for iodine storage may be subnormal.

In this case one of the chief lesions is to be found in the autonomic system. The megocolon manifests the break in the synergistic thyo-adrenal rhythmical contraction and relaxation of the non striated muscles of the colon. This of course is the reason for the resection of the presacral nerve to abolish the autonomic block observed in this case and performed by Dr. Duffy Hancock.

Myxedematous infiltration in and around the nerves may be found in these functional deficiencies. Hormonal or thyroid activity is thus observed to be absent.

Arterio-sclerosis occurs early in hypothyroidism. The blood pressure where there is no endocrine overlapping, is found to be low in hypothyroidism; but this boy of eighteen years has a blood pressure of 135 mm. systolic and 80 mm. diastolic; as well as some white hair; both showing presenility with arteriosclerosis and pigment deficiencies.

It is possible, however, in this case that the blood pressure may be influenced by a normal or hyper adrenal medulla, with relatively little chalone action from the thyroid, or suprarenal cortex.

In hypothyroidism gastro-intestinal atony is observed; there are both functional and nutritional manifestation of "interrupted" nerve supply.

Digestive secretions are altered, and swelling and lymphoid tissue is found in congenital thyroid deficiency.

The liver becomes enlarged, infiltrated and congested; functional disturbances and cholelithiasis occur.

The liver seems enlarged in this subject and there is very probably impaired carbohydrate digestion. Hypocalcemia is often found and calcium metabolism is impaired.

In hypothyroidism it is found creatin elimination is increased and uric acid formation is diminished.

Sublingual and cervico-thoracic thyroid cells are often found where a hypoplasia of the normal thyroid exists, of course nothing is recognizable in this living subject.

The special senses are embraced in the hypothyroid syndrome—there is olfactory deficiency; the eyes manifest keratitis, corneal necrosis, papilledema and cataract. Taste is deficient; hearing may be impaired and speech is said to correspond to the hearing.

Respiratory changes are both anatomic and functional. Respiration has been observed as low as 8 per minute.

In all stages of hypothyroidism constipation is the rule. In some cases as in this it reaches obstipation. Cecal stasis and chronic colitis is the rule.

Gastroptosis and enteroptosis are quite frequent; both are present in this case and are believed manifestations of the autonomic disturbances. In dextro-cardia the anlage for the cardiac tube is mal-adjusted, as in dextroversion of abdominal viscera. Dextrocardia is recognizable here.

Even senility has been classed by some as hypothyroidal; its evidence here is clearly of that origin.

This case presented by Dr. Hancock manifests absence of cervical thyroid, subnormal height, acromegalic chest, osseous hypoplasia; gonadal hypoplasia; canites, abdominal proturberance, relatively small pelvis, hirsuit, especially pubic, delayed; disproportion in upper, lower and torso body measurements, megocolon, dextro-cardia, whether true or displacement, radioscopy will disclose; there is suggestion of intestinal transposition; skin and circum-orbital tissues myxoedematous, submental development; and marked obstipation, intervals of bowel movements before operation, or section of presacral nerve by Dr. Hancock, reported as many weeks; but daily since operation. This surgical result is likewise confirmatory of the diagnosis. Low basal metabolism characterizes hypothyroidism, the correction of which, by the exhibition of thyroid substance, is termed therapeutically diagnostic. The surgical operation followed by success may likewise be so classed, and opens up a new field of surgery in endocrinology, involving the autonomic activity.

Blood clotting in the thyroid deficient is slow, in this case the relative excess of chromaffin tissue may alter the picture.

The pre-operative pigmentation observed by Dr. Hancock may be a medulla or suprarenal phase.

The usual blood picture in hypothyroidism is a slight diminution in erythrocytes; leucocytic variability is probably due to overlapping of other endocrine influences, lymphocytosis and mononucleosis are nearest to pathognomonic changes. Myelocytes were reported by Dr. Hancock in this case.

Achalasia or absence of active relaxation of the circular muscle fibers at the pelvicorectal juncture, which condition characterizes megocolonic conditions, is the result of the non-synchronous action of the autonomic nervous system.

The hypothyroidism causes a lack of sensitization of the neuromuscular synapse to the action of the adrenalin.

There is a blocking of the synergistic thyroadrenal autacoid (or hormone and chalone) effect as occurs normally by thyroid and suprarenal medullary coactivity, or the rhythmic processes of relaxation and contraction of normality.

These forces are influenced through the hormonal stimulation of the sympathetic by the thyroid and parasympathetic stimulation by the medullary adrenal secretion.

The persistant hypothyroidal and unbalnatal etiology is, as yet, hypothetical.
the phases of megocolon of Hirschsprung's disease.

Whether or not the ambiguous coccygeal bodies, claimed by some to be chromaffin tissue, by others denied, enter into this prenatal etiology is, as yet, hypothetical.

The work of Gaskell and Langley indicate that the autacoid activity of the secretions of the suprarenal medulla is a coordinating effect upon secretory function and involuntary activities of the non-endocrine organs.

Embryologically the suprarenal medulla is an outgrowth of the sympathetic nervous system. Anatomically its only nerve connection is directly with the solar plexus; hence the double opportunity of disturbed differentiation in these structures in hypothyroid states is to be found both physiologic and anatomic.

Englebach says, the suprarenal medulla differs from all other endocrine and non-endocrine tissue by not having a terminal ganglion or intermediate synapse, or "switch," of the efferent nerves.

The carotid and coccygeal bodies have been considered suprarenal accessories.

Concerning the carotid definite physiologic function is ascribed by some.

The coccygeal body tissues neither respond to chromophile tests nor have as yet furnished a recognized secretion; nevertheless the epithelial character of these cells grouped around the middle sacral artery near the tip of the coccyx are "richly supplied with sympathetic fibers."

Certainly these coccygeal bodies should be investigated in Hirschsprung's disease.

Be the findings what they may the battle is still between the sympathetic and the para-sympathetic as shown by the response to the cutting of the pelvic (or presacral) nerve, by Dr. Hancock.

In hypothyroid subjects, injections of the secretion of the medullary suprarenals, fails to cause glycosuria as in normality.

There is no hormone stimulation of more glycogen into the circulation, nor chalone inhibition of insulase.

Stimulation of the sympathetic nerve fibers cause secretion in the thyroid; stimulation of the vagus fibers to thyroid causes no secretion.

Stimulation of the splanchnic fibers to the suprarenal causes secretion, and an "action current was also detected in the thyroid and shows the relationship between thyroid and suprarenal action.

Resection of the presacral or pelvic nerves therefore breaks the single effect of the suprarenal, but does not relieve the indications of hypothyroidism, since there is no thyroid response in this case.

Polyhormone therapy before resection should be tested therapeutically, in such cases, certainly thyroid medication should be instituted at every stage of subnormal metabolism.

It should be borne in mind that the vegetative or autonomic nervous system existed in the lower scales of evolution, before a central nervous system was attained.

This system received and transmitted a control of endocrine function which determined every other function in the economy.

Every ductless gland in the process of secreting autacoids manifests what is known as an electrical current of action. It appears that stimulation of the sympathetic filaments to the thyroid causes the current of action and thyroid secretion; this thyroid secretion in turn instigates electro-chemical effects upon non-endocrine and endocrine functions. One of which is to excite the chalone effect of the adrenal medulla secretion.

So that rhythmic contractions and relaxation of the non-striated muscular fibers are maintained. If either force be removed from the see-saw, a collapse occurs on the side of the force left. Hence megocolon, with its dilated central muscles and contracted extremities.

Nerve section balances by removing the weight, but the forces must be added to maintain the potentiality of activity and prevent inertia.

The subject can live without the autonomic nerves but not without the endocrines.

Hence administration of both thyroid and pituitary hormones seem indicated in Hirschsprung's syndrome, if the causative factor prove to be congenital hypothyroidism, as so clearly manifested in this case.

If study of present and reported cases of Hirschsprung's disease verify the hypothesis, and congenital hypothyroidism is the cause of this syndrome; then it follows that early diagnosis and appropriate endocrine medication offer much hope in a previously hopeless condition.

Dr. Hancock's and the patient's cooperation have allowed the following confirmative verifications of the diagnosis of congenital hypothyroidism in this case, viz: age 18 yrs.; hgt. 59 1-4 in.; (normal, 66.6 in.) wgt. 103 3-4 lbs. (Normal wgt. 125 lbs.). B. P. 135 systole; 80 diastole. Upper measurements 26 1-8 in.; (normal 32.8) lower measurement, 33 1-8 in.; (normal 33.8 in.;) Circumferences of head, occipito-frontal, 20 in.; occipitomental 24 1-4 in.; of neck 11 in.; of chest, at nipples 31 in.; at xiphoid cartilege 39 in.; at umbilicus 31 1-2 in.; at hips 30 in.; right thigh 14 in. left 15 in.; at ankle above condyles 7 in.; at condyles 9 in.; of feet-long and narrow, 21 in.; toes well formed, joints and nails normal. Arms 26 3-4 in. symmetrical, span 61 1-4 in. Circumference of arms over biceps both, 26 3-4 in.

Ears symmetrical, large shell shaped 2 1-4 by 3 inches; eyes, nose and mouth proportionately normal; eyes when dilated in dark room during fluoroscopic examination greatly dilated, with a peculiar non-symmetrical narrowing of iris towards inner canthus of left eye and outer canthus of right eye; carotid plexus of sympathetic pulse was 120 at this time. Temperature axillary 98°.

Later normal pulse, when recumbent, was found to be 88. A true dextro-cardia was observed. Mitral regurgitant or prestolic murmur was heard 3 in. to the right of mid sternum, 3 in. left of right nipple and 2 in. above horizontal line at margin of right ribs. Fluoroscope showed apex tilted to right of sternum at an angle slightly greater than normal to left heart. Heart sounds heard posteriorly and in right axilla.

Lungs: Normal anatomically and function-ally by external physical examination; respiration 18 per minute. Liver began one inch below nipple; was enlarged. Spleen and pancreas and thymus could not be made out; kidneys demonstrated no abnormality; abdominal skin was very thin with blue veins coursing through; beneath eyes, thickened and myxoedematous; Sargent's line test or dermographia showed scarcely any whitening after the test with faint redness slowly responding; abdominal reflexes present; gastroptosis and enteroptosis; such enlargement and abdominal protrusion existed above a line drawn from the junction of the 8th rib and costal-cartilage on the left side to the outer border of the rim of the pelvis on the right side; a colonic displacement or transposition was suspected but not confirmed.

All of the bones are thin and poorly developed; condyles and later formation apparently less disturbed than earlier centers; penis 2 inches; absence of pubic hair, testicles proportionate; eyebrows normal; no marks of rickets on ribs; teeth well developed, but crowded; when arm is at rest upon side the finger tips reach down ten inches upon thigh. Reflexes normal; special senses apparently normal. Family history vague. Mental status about eighth grade; pensive, patient and good behavior. Blood pressure 135-80; sclerotic pulse, hair dark with white hairs abundant; eyes hazel.

Inspection from back discloses fairly normal development.

History of appetite and sleep normal; plays and exercises but endurance poor.

Normal anthropometry, male 18 years, height 66.6 inches, weight 125 lbs. span 66.7 in.; upper measurements (symphysis to vertex) 32.8 in.; lower, (symphysis to soles) 33.8 inches; head circumference 22.4 inches; chest, 33.7 inches; waist 28.2 inches.

Conclusions: So definite are the symptoms of congenital hypothyroidism, in this unmistakable case of Hirschsprung's Disease, that it is believed the proven pathology of the two diseases, justifies the assumption that Hirschsprung's Disease is caused by congenital hypothyroidism in, probably, all cases, and is therefore, not a disease, but a sub-syndrome of hypothyroidism.

Endocrine therapy, therefore, is indicated in addition to the surgery required.

(September 29, 1937. Dr. Hancock reports the subject died in Tennessee, September, 1937.)

Quinine as Prophylactic Against Influenza.—After pointing out that the use of quinine as a prophylactic against influenza was recommended already during the epidemic of 1889 and 1890, Spitta reviews the later literature and then discusses the dosage. He recommends the use of quinine hydrochloride or quinine sulfate in quantities from 0.05 to 0.1 Gm. a day.

DENTIGEROUS CYST WITH REPORT OF TWO CASES*

A. L. Bass, M. D.

Louisville.

Dentigerous cysts are rather common, but the sizes of the cysts in the two cases reported are rare. It is estimated that twenty-five to thirty per cent of antral infections are of dental origin. Dentigerous cysts may be either due to unerupted teeth or disturbed development in the embryonal stage. In such cases fully developed teeth may be found in the cyst cavity which occurred in one of the cases reported. Peridental cysts are due to infection about the root of the tooth and arise from inflammatory changes in its lining membrane. As a result of the necrosis at the apex of the tooth, a small cyst forms which subsequently becomes infected. If the tooth is extracted before destruction takes place the cyst wall is easily removed intact. Retention of the inflammatory products results in destruction and pressure absorption of the surrounding bone. As the lining membrane continues to secrete in the closed cavity the cyst grows in size and projects into the antrum, may push the lateral wall of nose to one side, protrude into antrum, nose, or mouth. The contents of the cyst may be a straw or brown colored fluid, blood or pus.

Symptoms: At first they may be absent or there may be local soreness. As the cyst increases in size and bony absorption takes place its osseous covering may become very thin or entirely absent. At this stage the growth may have been so insidious there may be but little or no pain. Extreme distention of the cyst may be followed by rupture in the antrum, nose, or mouth. If the discharge is into the antrum all the symptoms of purulent maxillary sinusitis may be present.

Treatment: Some small cysts which have not ruptured may be cured with extraction of offending tooth and removal of cyst wall; the larger ones will require a radical operation; removal through canine fossa plus a counter opening in the naso-antral wall.

Case No. 1: Miss R. Y., age 19, was first seen September 1, 1925, referred by Dr. E. C. Hume, following extraction of left upper wisdom tooth, stating that it connected with antrum. Examination: Left antrum transilluminated dark. Probe could be passed into cyst through tooth socket for about 1½ inches. Antrum was irrigated through socket and lateral nasal wall every three to four days until October 26th when antrum irrigated clear. Patient was discharged; was not seen until 1929, four years later, with laryngitis. In 1933 she came in complaining of discharge in left nares with dull pain in cheek. Examination: left antrum transilluminated dark; irrigated pus; X-ray report; "Films of the sinuses including on made stereoscopically show the frontal to be small but apparently essentially normal in density. The sphenoids and posterior ethmoids are clear. There is some clouding of the anterior ethmoid cells on the left. Those on the right seem to be normal. The right antrum is normal. The left is markedly increased in density and the entire lateral inferior wall is absent. There is a very indefinite curved linear shadow extending almost to the upper limit of the antrum. It is difficult to say what is responsible for the changes in this antrum but it seems quite probable that the patient has a very large, so-called maxillary cyst that has extended into the antrum almost completely obliterating it and has destroyed the lateral inferior wall. The only other explanation would be a tumor of some type arising about the roots of the teeth. Nothing else of importance is noted." Blood Count: R. B. C. 4,420,000; Hg. 90; W. B. C. 9,200; Polys 59, Staph 14; Lym. 35. Urinalysis: sp. gr. 1006; acid 10; solids 14. Wassermann, negative. On May 30th a Caldwell Luc was done. A bony cyst was found filling entire antrum, egg shell-like lining nasal wall with absence of lateral wall for 3-4 of an inch. Antrum was packed with 5 per cent iodoform gauze. Recovery uneventful.

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*Read before the Jefferson County Medical Society.

Case No. 2: R. A., age 4, (col.) City Hospital. History: Noticed swelling in left cheek which has been gradually getting larger for one and one-half years. No pain. Family history: Father, living and well; Mother, living and well. Personal history: has had measles and pertussis. Examination: Well developed and moderately nourished. There is a marked swelling in left cheek, left nares closed and nasal septum pushed against lateral nasal wall of opposite side. T. 98.6; P. 100; R. 24. Kahn test negative. R. B. C. 4,850,000; Hg. 80; W. B. C. 8,800; Polys 36; Lym. 34. Mon. 10. Urinalysis: alkaline. sp. gr. 1025; negative. X-ray report: There is cloudiness of left maxillary antrum. Distribution of unerupted teeth appear to be rather universal. Operation 4-21-37, under general anesthesia, an incision was made parallel and about 1-4 inch above gingival margin. Cyst wall was punctured and straw colored fluid was aspirated. The cyst was separated and peeled out in toto. There were three unerupted teeth; one is canine fossa; one in posterior wall of antrum and one in lateral nasal wall anteriorly and beneath inferior turbinate. Cavity was packed with iodoform gauze. Packing was removed on third day and patient left hospital on seventh day.

DISCUSSION

E. C. Hume: I appreciate the opportunity to be before this society. I am interested in any form of surgical condition about the face and mouth, particularly cysts. Having seen both of Dr. Bass' cases, I am doubly interested in them.

There are some points we might remember about diagnosis, it is not always easy to differentiate these cysts from sarcoma. This may be done by aspiration in advance of operation. The fact that you get a fluid which is clear, free from blood shows there is little or no evidence of malignancy. On the other hand, with blood, in the aspirated fluid, there is the possibility of malignancy.

There are two types of these cysts. The follicular type, which we saw in the colored child, grows rapidly in these youngsters. We see them in adults, growing slowly often found in routine examination. The other type grows from the root ends of teeth, comes from a tooth which has been devitalized. We see these athletes, where they get an injury to the jaw, have soreness, discomfort and there is destruction of blood supply to tooth or teeth. This particular type is more prone to become the malignant type.

I should like to show you some slides to give you an idea of x-rays of these cysts of the maxilla. The first is a male, 56 years old, with a cyst at crown end of unerupted tooth. The crown end of the tooth has a membrane over it until it erupts. Friction against the other teeth destroys it. Since these teeth do not erupt, that cyst takes on extra growth, and practically the entire mandible may be destroyed. Slide 2 is a caddy. Trauma played a part here. Slide 3 is a boy with the cyst in root ends of teeth. Slide 4 is upper jaw, gives idea of cyst of a child. Slide 5 is the Eastman No. 2 film. It gives the best outline of cysts in the maxilla.

If the root ends of adjacent teeth are exposed, the teeth so exposed should be removed. The big thing in all these cysts is a careful search for missing teeth, and careful study to determine whether or not malignant degeneration has taken place before we institute operative procedure.

Fatality After Atabrine-Plasmochin.—Dechera calls attention to the fact that when plasmochin and atabrine are given together the risk of toxic effects is clearly increased. In his case, 0.7 Gm. of atabrine, given at the rate of 0.1 Gm., three times a day, with 0.01 Gm., of plasmochin a day for two days, was followed immediately by acute toxic hepatitis, which led to cholemio and death. It is, of course, difficult to say which drug caused the hepatic damage in this case, but it is certain that the combination was toxic. Permission for necropsy was refused.

SYMPOSIUM

THE HUMAN TUBERCULIN TEST*

Austin Bloch, M. D.

Louisville.

For detecting an allergic sensitiveness of the skin of human patients harboring the tubercle bacillus, Mantoux devised in 1908 the test which bears his name. It has survived many modifications, and is considered the most reliable and sensitive of the many tests that have been used for the purpose. To perform the test, minute quantities of bacillus extract are aseptically introduced between the layers of the epidermis, provoking, in sensitive individuals, characteristic reddening and induration at the site. The preparation of the material to be injected, whether Old Tuberculin or the Purified Protein Derivative of the bacillus, is beyond the subject of this paper. Reactions significant of allergy appear between the twelfth and the seventy-second hour following injection, and vary in size and severity according to the dosage and the degree of sensitiveness. The specificity of reactions to large dosages is doubtful. For improving the accuracy and significance of the test, the degree of positiveness as shown by the size of the reacting area may be recorded; smaller doses may be used to detect the higher allergy supposed to accompany active disease; the Purified Protein Derivative may be used as a precaution against nonspecific reactions and to insure potency of the material.

Allergy indicates present or past tuberculous infection; the absence of allergy usually denies infection. The rising proportion of the population, tuberculous or otherwise, who exhibit allergy as older groups are examined renders a positive Mantoux of most importance in young patients, where it points to the existence of exposure to infection, and in very young children, where it is diagnostic of tuberculosis. Above the age of twenty, in urban communities, the majority of people are allergic to tuberculoprotein, and negative tests are of more significance than positive reactions, since most of the reactors are not, and will not become, cases of tuberculosis.

Many large series of patients have been examined in order to correlate X-ray and clinical findings with the demonstrable allergic behavior. Such series afford abundant evidence that allergy to tuberculoprotein may be lost by the skin either during or following tuberculous infection, and that the degree of cutaneous allergy may vary in the same patient. Rich and McCordock say: "Under what conditions does allergy diminish during progressive infections? Aside from decrease of reactivity during certain intercurrent infections and in the moribund, (the state of allergy in diabetes and in pregnancy needs further study) allergy diminishes especially under conditions of massive tuberculous infection." "It is . . . . probable that the diminution of allergy during massive infection is a desensitization phenomenon dependent upon the combining of most of the available antibody by the large amounts of antigen liberated into the blood stream."

Long and Seibert say: ". . . extended study has shown that extremely ill patients and a considerable number of patients with chronic far-advanced tuberculosis of long standing may not react to tuberculin. This holds for the Purified Protein Derivative, as well as tuberculin in other forms. In a study to be reported in detail later, on 116 patients with advanced tuberculosis tested at monthly intervals in the Philadelphia General Hospital over an average period of six months, 31, or 27 per cent, were negative to the first dose of the Purified Protein Derivative two-thirds of the time or more."

Beside these nonreactors who are too far gone to react, there is a group of nonallergic patients whose X-rays show single or multiple opacities in the lungs, such as are commonly interpreted as quiescent or obsolete tuberculous lesions.

Whether or not there is a third group of infected nonreactors, having small but unstable tuberculous lesions, is not certain. Long and Seibert appear to have demonstrated such a group.

Of twenty patients recently seen at the Waverly Hills Clinic, insensitive to tuberculin, yet exhibiting pulmonary changes by X-ray, five were esteemed (from the X-ray appearances) to have active or unstable lesions. Two of these had been exposed to infection, three had symptoms suggestive of tuberculosis, and all were underweight. Ages ranged from three to twenty.

Re-examination by X-ray after three to six months of ambulant care showed no changes in the X-ray appearances of any of these patients. Whether or not in a larger series, such as the series reported by Long and Seibert, we might find a few cases of active, yet not obvious, tuberculosis, insensitive to tuberculin, we cannot say. Probably if our tests were applied during such episodes of anergy as accompany measles and scarlet fever, we should find many such cases.

We are inclined to conclude that neither the Mantoux test nor the X-ray is competent alone to eliminate the diagnosis of pulmonary tuberculosis in cases where the history of symptoms and exposure is suggestive; the two diagnostic methods should be used to check one another.

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*Read before the Jefferson County Medical Society, May 3, 1937.

Conclusion: The Mantoux test, preferably performed with the Purified Protein Derivative, demonstrates the presence or absence of cutaneous sensitiveness to tuberculoprotein, which sensitiveness is present in marked degree in practically all sufferers from tuberculosis save the victims of advanced disease, as well as in many individuals who are not ill. The degree of sensitiveness does not necessarily parallel either the severity of infection or the patient's resistance to the infection, and discrepancies between clinical and allergic manifestations should be resolved by the use of the X-rays.

I am indebted to Dr. Oscar Miller and to the capable and cooperative staff of the Waverly Hills Clinic for much of the material presented in this paper.

THE USE OF SERUM IN THE TREATMENT OF PNEUMONIA*

Carlisle Morse, M. D.

Louisville.

Thirty years ago Dr. Osler wrote, "Pneumonia is a self-limited disease, which can neither be aborted nor cut short by any means at our command." Today, however, the perspective is greatly improved. The specific treatment has demonstrated its value, and a far better prognosis can be offered for the victim of this disease than could be offered in Osler's day.

What formerly was spoken of as "inflammation of the bowels" has now come to be recognized as typhoid, appendicitis, peritonitis, dysentery, etc. The term "pneumonia," however, is now applied to all those conditions in which there occurs an acute exudative inflammation involving the parenchyma of the lungs, but is gradually coming to be recognized as a group of specific infectious diseases. This is due primarily to the interest aroused by the serologic classification of the pneumococci and the elaboration of specific therapeutic serums against them.

The specific treatment of lobar pneumonia was attempted as early as 1897 by Washbourn with a non-type-specific serum. Since 1913 Cole has used an unconcentrated horse serum in type 1 pneumonia with a mortality of 10 per cent, but it never became popular because of its tendency to produce reactions. In 1921 Huntoon produced a serum-free solution of pneumococcus antibodies in modified Ringer's solution. This product protects mice against 1,000,000 lethal doses of a virulent culture of pneumococcus type 1. It is somewhat less protective against type II, and protects against only 100,000 lethal doses of type III. It contains only 0.035 mg. of nitrogen per cubic centimeter.

In 1924 Felton found that the protective substances in antipneumococcic serums were contained in the euglobin fraction and devised a method of concentrating and refining antipneumococcic horse serum, and subsequently has improved the method. This concentrate which is approximately a tenfold concentration is marketed in units, a Felton unit being the amount which will protect a mouse against 1,000,000 lethal doses of a virulent culture of pneumococci.

In 1934 Bailey and Shorb following the Forssman phenomena showed that many different bacteria contain heterophile antigen. They have reported that all types of pneumococci in both rough and smooth forms contain heterophile antigen. This antigen, they find is not type specific. Animal experiments were carried out and a serum made that had the theoretical advantage that it could be used for all pneumococcic pneumonias, regardless of type, and as a corollary of this, typing would be unnecessary. However, Plummer in his report to the Council on Pharmacy and Chemistry advised, "because its superiority is unproved and because of the probable increase in allergic reactions it is unfair and unwise to recommend the combined heterophile serum for general distribution.

Recently Horsfall has used an unconcentrated type specific anti-pneumococcus rabbit serum. The characteristics which have served as a rationale for its trial in the therapy of lobar pneumonia are: (1) A relatively high mouse protective potency as compared with horse serum (200 to 90). (2) The rabbit antibody is of relatively small size compared with the horse antibody (as 1 to 3 or 4). Other factors being constant the smaller the antibody the more effective should be the penetration into infected tissue. (3) Protection fails entirely when greater than optimum amounts of horse antiserum are used in the mouse protection test. This does not occur with the rabbit serum. (4) The mouse protective action of horse antiserum is inhibited by physiologic amounts of cholesterol and cephalin. These do not affect the rabbit antiserum. (5) The immunization of horses is slow and uncertain as compared with the ease and rapidity with which rabbits can be immunized. (6) Unconcentrated rabbit serum is estimated to cost approximately one-fifth as much as concentrated horse serum. Twenty-two cases are reported treated with this unconcentrated type specific antipneumococcus rabbit serum, including types I, II, VII and VIII, with a mortality of 4.5 per cent. Further study with this serum appears well warranted.

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*Read before the Jefferson County Medical Society,

To obtain the greatest benefit from antiserum the following practical procedures are used: (1) An attempt to obtain a pneumococcus type as rapidly as possible when pneumonia is suspected. (2) Frequent blood cultures in suitable broth media, and be sure to take one just previous to giving serum. (3) A roentgenogram should be made if convenient. (4) Serum should be given promptly in adequate amounts and in as short an interval as is consistent with the safety and comfort of the patient.

If no improvement takes place or seems inadequate in view of the dosage, the typing should be rechecked, a direct culture of the sputum should be made to determine the presence of mixed infections, make further blood cultures, recheck the time of onset, and investigate clinically for complications.

Before intravenous administration of the serum, patients may be tested for sensitivity in three ways: (1) Intradermal Test, one-tenth cc of a 1:10 dilution of horse serum in physiologic solution of sodium chloride. (2) Conjunctival Test, one-tenth c. c. of a 1:10 dilution of serum in physiologic solution of sodium chloride into the conjunctival sac. (3) Intravenous Test, one-tenth cc of the serum in 5 cc of saline solution injected intravenously.

The dosage is recorded in units. The amount in cc's only kept in mind because of the horse serum present. The number of units given depend on the day of the disease, amount of involvement, complications, age of the patient, and presence of bacteremia. Finland advises that 75,000 units is adequate provided the entire amount is given within a few hours, the treatment is begun before the fifth day, the blood culture just before the first injection of serum is sterile, and the lesion is limited to a single lobe.

With more extensive involvement 150,000 units should be given. With the blood culture positive and a single lobe involvement 150,000 units, but if the lesion has already spread 200,000 to 250,000 units may be required. These amounts may be ineffective if spread over two or more days. After the fifth day of the disease very few cases are likely to derive any benefit and if used the dosage should be much larger than required earlier. Patients over 40 or 50 require higher dosage. Empyema may be prevented and the pleural exudate become sterile by early and adequate specific treatment.

Cecil in his investigation of very early treatment of type I pneumonia with homologous serum observed that: (1) The disease may be completely aborted, the temperature, pulse and respiration rate dropping to normal within 12 to 24 hours after administration of the serum. (2) There is striking improvement in the patient's general condition, as the result of the disappearance of the toxemia. (3) Early treatment prevents the spread of the infection. (4) Bacteremia is prevented or checked. (5) Leukocytes return rapidly to normal. (6) Homologous agglutinins, precipitins and protective bodies promptly make their appearance in the circulating blood. (7) Skin tests become positive to the homologous polysaccharide. (8) The death rate is cut to approximately one-sixth the standard death rate for untreated type I pneumonia.

It is possible to determine the cessation of acute disease once serum therapy has begun. Tillett and Francis originally showed when the recovery processes have been initiated the skin gives a positive reaction to .01 mgm. of type I polysaccharide in the form of a wheal and erythema, which reaches its maximum intensity in 15 to 30 minutes. Francis has recently shown that the polysaccharide skin test can be made use of as a valuable guide in serum therapy. In the opinion of Francis a positive skin test denotes that recovery has begun. When negative it indicates the further need of serum therapy. Abernathy has confirmed the value of the polysaccharide skin test in controlling serum therapy. He found that approximately 200,000 units was the amount required in treating the average uncomplicated case of type I pneumonia.

Exception to the administration of serum is made, as it is not considered warranted in: (1) children who are not very ill, (2) patients who are moribund. (3) and patients in the stage of recovery when seen.

Belk tabulated all published reports which could be statistically studied, and found 1838 adults with type I pneumonia treated with antipneumococcic serum had a mortality of 15 per cent, while a control group of 890 cases without specific treatment had a mortality of 25 per cent. 677 type II's had 30 per cent mortality as compared to 799 controls with 37 per cent mortality. In Belk's tabulation mild allergic reactions occurred in 15 per cent, thermal reactions in 10 to 20 per cent, serum sickness in 25 to 30 per cent. In these 1815 patients one death was caused by severe allergic reaction. Belk tabulated cases with pneumonia as the only morbid process and found 514 given antipneumococcic serum early in the disease with a mortality of 23.1 per cent while 461 controls had a mortality of 47 per cent.

EMPYEMA*

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Louisville.

I have been asked to disregard the symptoms and diagnosis of acute empyema, and to confine my remarks to the surgical treatment of this common complication of pneumonia.

One can hardly discuss the subject without some reference to the disease that preceded the empyema; without some reference to its frequency; and without mentioning some of the findings which determine its presence.

Penberthy and Benson, in a study of 5808 cases of pneumonia found that 9 per cent of lobar pneumonia and 1.2 per cent of the broncho-pneumonia were followed by empyema.

The diagnosis of empyema is based on the history, physical findings, X-ray examination, and aspiration of the pleural cavity.

I will speak about the X-ray examination and aspiration only, as the findings elicited by these means have an important bearing upon the surgical management.

In the hospital care of the pneumonia patient the roentgen ray is finding an increasing usefulness, not only in the diagnosis of pneumonia, but also in following the progress of the case. This frequent use of the X-ray has brought about an earlier recognition of empyema as a complication of pneumonia. X-ray examinations should be made with the patient in a position as nearly approaching an upright one as it is possible to procure. Films should be made in the anteroposterior and lateral projections, since the purulent collection in the pleural cavity is not always a massive one and may be sacculated, i. e. confined to one or more portions of the pleural cavity.

Any marked opacity found during the period of illness or convalescence from pneumonia should be explored by means of an aspirating needle. This verifies the presence and location, and determines the type of the pleural exudate; the latter feature being important in the consideration of the type of treatment to be instituted.

When and how are we to treat acute empyema surgically?

Prior to the World War the surgical treatment of this condition was more or less standardized, and consisted in what was called open drainage, effected by the removal of a section of a rib near the lowermost portion of the cavity, and the insertion of a tube which was to remain as long as the drainage was purulent. The gradual withdrawal of the tube, and its removal were followed in a high percentage of cases, by a complete healing of the sinus, and the gradual return of the patient to a state of normal health.

The frequent incidence of empyema in the camps, and the discouraging mortality rates following open drainage of these cases led many surgeons to seek other methods of treatment. As a result we now have the surgical management of empyema following one or more of three different methods:

(1) Simple aspiration, with or without the injection of air.

(2) Closed drainage.

(3) Open drainage.

Simple aspiration has been advocated by some. This consists in the aspiration of varying amounts of the exudate; enough to relieve the pressure, and the frequent repetition of this procedure until the fluid ceases to collect.

Danna, of New Orleans, advocates aspiration plus the injection of air. His method of doing this is to have the patient in a sitting or semi sitting posture. A large aspirating needle is inserted near the most dependent portion of the cavity. The aspiration is done with a 50 or 100 cc. Luer syringe attached to the needle by means of a hard rubber tube. A syringe full of pus is aspirated and, before detaching the syringe, a hemostat is clamped on the tube, the syringe emptied, and reattached to the tube with plunger withdrawn; the clamp is removed and a quantity of air equal to the amount of pus withdrawn is injected into the cavity before a second syringeful of pus is removed. He continues the withdrawal until he gets air only, which indicates that the cavity is empty of pus. He has withdrawn as much as 3000 c.c. at one treatment. Aspirations are repeated when there is a re-collection of the fluid. The average interval between aspirations is 6 days. He has had one case cured by one aspiration, some have required ten or more, and the average number of aspirations has been four.

The second method is that of closed drainage. This is done by entering the pleural cavity between the ribs using a trocar, and cannula—a catheter is inserted through the cannula and the cannula withdrawn. The external end of the catheter is placed under water, or connected to some type of suction apparatus, whereby the cavity is kept empty by negative pressure.

The third method, that of open drainage was described earlier in this paper.

To properly appraise the relative merits of these various methods is no easy task. While mortality rate is the most important consideration, there are other factors which should enter into the discussion.

Of considerable importance is the question of the task of carrying out each line of treatment.

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*Read before Jefferson County Medical Society.

The aspiration method, with or without air introduction, can be done by anyone in the majority of instances, but when there is much fibrinous exudate more radical measures might be required, and an open operation may be necessary.

The advocates of the closed method emphasize the necessity of more than ordinary skill upon the part of the surgeon, assistants, and nurses caring for a patient treated by this method. Then too, this method does eventuate in a type of open drainage as absorption about the catheter permits the entrance of air into the pleural cavity.

The open drainage method can be done by any surgeon and the surgical after-care of the wound requires nothing other than attention to the drainage while the general condition of the patient requires the same support needed when he is treated by either of the other methods.

A second factor, besides mortality, that requires consideration is, the period of hospitalization. Since the depression the economic factor has been given a prominent place when it affects the treatment of any malady or injury.

The aspiration method of treatment requires a hospitalization period of forty or more days.

The largest series of cases treated by closed drainage, the report of which was seen by me, was that of Penberthy and Benson who list 407 cases with an average of 48.6 days in the hospital.

Before considering the results in the open method, I shall briefly report the findings in the last 70 cases of thoracostomy we have had, fifty-seven of these were operated upon by Dr. Abell, Sr., and 13 of them by the writer.

In this group of 70 patients the youngest was 5 weeks old, the oldest was 65 years old; the average age being 16.2 years. Of the seventy patients there was one who had two operations for acute empyema, the second operation being on the same side after twelve years of good health.

Of this group seven patients died, which gives a mortality of 10 per cent—slightly less than 10 per cent if the one patient operated upon after 12 years be considered as two separate cases. It is interesting to compare this ten per cent mortality rate in operations done by the open drainage with that obtained when other measures are employed.

Danna in his first report made in 1930 recorded 35 cases with two deaths, a mortality of 5.7 per cent.

Oschner and Gage, the same year reported the results in 124 cases of empyema in adults treated at the Charity Hospital in New Orleans. Of these 29 cases were treated by the aspiration and air injection method. Three, or 10.3 per cent died, and two required subsequent rib resections.

Intercostal drainage was done in 41 cases —5, or 12.2 per cent died, and one required subsequent rib resection.

Rib resection was done in 53 cases—of this number 7 died, a percentage of 13.2.

J. K. Bowman, Indianapolis, recently reported a series of 123 cases in which the mortality following rib resection was 4.9 per cent, while that following closed catheter drainage, and the plan of repeated aspirations was 15.4 per cent.

Penberthy and Benson in a series of 407 cases treated by the closed catheter drainage method reported a mortality of 10.3 per cent, of the surviving cases 15 required subsequent rib resections.

A consideration of the causes of death in our own series might help us in adopting measures to improve our results.

(1) One death was that of a 5 weeks old child, in which case necropsy showed multiple small pulmonary abscesses, thought to be due to aspiration.

(2) Child of five years who had a severe enteritis in addition to the empyema.

(3) A man of 50 years, whose pleural exudate showed the presence of a hemolytic streptococcus, and who had a lobar pneumonia of the opposite side.

(4) Man 19 years of age who died the day following an open operation, at which a thin sero-purulent exudate was encountered.

(5) A child 2 years of age whose exudate was thin and bloody.

(6) A child 2 years of age who had scarlet fever at the same time.

(7) A child 2 months of age that had pneumonia on the opposite side.

Of the cases surviving the longest period of hospitalization was 73 days. The patient was 65 years of age and had a lung abscess in addition to the empyema. The average period of hospitalization was 12.8 days. Three of these cases resulted in permanent sinuses.

The value of any study of the literature combined with a review of one's own experience is manifested by the influence such a study has on one's course in the treatment of future cases of a similar nature.

In the mind of the writer this present study has been instrumental in bringing about the following conclusions as to the surgical treatment of acute empyema.

(1) Empyema is never an emergency i. e. it does not require immediate surgical intervention, no matter how sick the patient appears to be, or how anxious the referring physician is to have the case operated upon immediately. Time should be taken for satis-

factory X-ray studies, and for aspiration of the pleural cavity to determine the nature of the exudate, since in those cases having a thin exudate the mortality is higher.

(2) Do not do an open drainage when the exudate is serous or sanguineous in type. Better, do multiple aspirations until the exudate becomes frankly purulent.

(3) Do not do the radical operation when the physical findings and roentgenograms show a pneumonic involvement of the opposite side. By repeated aspirations, delay the day of the open drainage until the pneumonic process has had time to improve.

(4) In all uncomplicated cases in which the exudate is frankly purulent do an open operation, for in this type the mortality is as low as that of any other method; the after care is more simple, the period of hospitalization is much shorter, and the end results are as satisfactory as those of any other method.

(5) Always bear in mind that empyema occurring during pneumonia is much more serious than that which follows the subsidence of the pneumonic process. Therefore, be very cautious in the cases of empyema occurring concomitantly with the pneumonia.

DISCUSSION

O. O. Miller: The question always arises as to the specificity of the tuberculin test. Some have thought the tuberculous patient is highly allergic and will react to other products injected cutaneously. Dr. Bloch told you that tuberculous patients have been found to react to timothy. It has been shown that positive reactions are obtained from the products of the bouillon broth in which the bacilli are commonly grown. We do know that new born babies do not react to the tuberculin test whatever. There is a specificity to the tuberculin test and the ordinary patient will react to the tuberculin test. It was formerly believed that once a patient gave a positive test that he was positive throughout life. We know this is not true. Allergy waxes and wanes. We have had many cases which gave a negative test and upon being retested became positive. In the examinations done on over 50,000 Louisville school children this has been noted. It has been interesting in this group when one plots the curve by age groups to note that a very characteristic drop in incidence occurs between the ages of 14 and 16 years. It seems as if at that period individuals will show a decline in the allergic phenomena. Now, allergy can be suppressed. Unscrupulous veterinarians have known and practiced this for years. When they had diseased cows ready for market they would administer immense doses of tuberculin and upon testing these same cows at the market negative reactions were obtained. It is well known, too, that infectious diseases, scarlet fever and measles particularly, also have a depressing effect upon allergic reactions. Many individuals date their active tuberculous symptoms from an attack of the measles.

It is not unusual for us to find children who have definite evidence of tuberculosis on an x-ray film, that is calcified nodes or primary tubercles, who are negative to the tuberculin test. Many who are exposed to tuberculosis with an open case in the home also react negatively. All children examined in the clinic are given a tuberculin test, fluoroscoped and x-rayed and we find a moderate number who are negative to the tuberculin test. The thing that has interested us has been the fact that we have seen several films in which we have thought there was a soft caseous tubercle in the right 4th interspace, correspondingly true of the inter-lobar septum in inter-lobar pleurisy, does not reassume that shape, this lesion was still present. I think it represents a caseous tubercle. The question arises as to whether sensitivity was due to it or the lesion due to it. Harrington and Meyer have contended that a positive tuberculin test indicates the presence of living tubercle bacilli. Conversely a negative tuberculin test would not necessarily indicate that all living tuberculous infection had died out. It may stay viable for many, many years. I do not think that it is wise to tell patients that they have viable tuberculin bodies in their body, the bodies may have died and allergy remain. They may be negative and still contain viable bacilli. There are cases on record, very few I grant you, of congenital tuberculosis in which there was no tubercle formation in the body and autopsy showed that these children had tubercle bacilli present in sections of the liver or in the intestes with no definite formation in the body.

I think that the tuberculin test is specific and that when you find a positive tuberculin reaction it indicates tuberculous infection and that the younger the child, the more valuable is the information. Of course, the whole population is considered tuberculous and that everyone would give a positive reaction. The infection is not as massive as that however and we are finding more and more individuals with negative tuberculin tests. We test all medical students as they enter training and have averaged 50 per cent negative tests. We have tried to obtain tests on these same students at the time of graduation but they are too busy at this time for a complete study. As many as we have been able to retest however, we find a rising incidence of positive reactors indicating a reactivation of a latent infection or reinfection. We have been testing the nurses as they enter training at the City Hospital and again as they graduate. Hardly one graduates with a negative tuberculin test and only those who had primary tuberculosis have broken down with a clinical infection.

To date the tuberculin test is becoming of greater value and it is rather interesting to note the number of pediatricians who are using this test on their patients.

Misch Casper: Pneumonia is always an interesting subject. There has been a great deal of pneumonia since the flood, not so much as we expected, due generally to the competence of the Health Department and health officers. Pneumonia does not seem to be so prevalent as it formerly was, probably because of the use of more spinal and local anesthesia, though some clinics do say that their pneumonia incidence has come after spinal anesthesia as well as after general anesthesia. The post-operative cases of pneumonia act very much like the other types, and I feel that the serum is going to be a great help in its treatment. As to empyema, I too think Dr. Henry has been very modest in his mortality rate. A good many cases he reported as mortality can be ascribed to some of the other complications associated with the disease. I haven't had a mortality from empyema since the war. I have used the closed method entirely. There is probably a reason the mortality is higher with the open method than with the closed. I use the closed method of treatment first, and later on, the open method, if necessary. One point needs emphasizing: not to operate on these cases too early. Improve their general condition by intravenous feeding, alleviating their dehydration; do not be in a hurry and you will get a lower mortality rate.

We have had no trouble in doing this operation on even small children with local anesthesia. We make a cross and have the child tied so that he cannot kick and throw his hands about. He has no pain and is given an analgesic so that he is asleep at the time of operation.

Morris Flexner: Papers on the serum treatment of pneumonia are timely, and will continue to be so until the profession has been thoroughly sold on the efficacy of the therapy. The recent improvements in the identification of the specific type of infection, have simplified the problem greatly. Also the fact that there now are 5 types of commercial serum available, where formerly there were only two, is encouraging. In private practice, few physicians have the opportunity to see enough cases of frank lobar pneumonia to get more than an impression of the efficacy of the treatment. It is for that reason that we must rely on the reports of institutions where the work is carefully checked, such as Dr. Morse reported and where large number of treated cases can be compared with those handled by other methods such as oxygen, glucose, etc. The situation is not unlike that which arose some years ago in the field of typhoid fever, where men like Coleman and Shattuck branched away from the old starvation treatment and began to feed their cases. Their statistics, after a few years, soon convinced the profession that high caloric feedings were not only beneficial, but an absolute necessity, in order to cut down the mortality rate. feel that it will not be long before any physician does not use serum in lobar pneumonia with an identifiable type for which there is a serum will be regarded as not having done the best by his patient. As Dr. Morse pointed out, it is not quite as simple as having a patient with a definite type of pneumonia for which there is an antiserum, combining the two, and then sit on the side lines and watch the patient get well. Occasionally it works almost that dramatically. But the serum is a horse-serum, and hence has its dangers. Every patient must be tested for sensitivity, preferably with the ophthalmic and the intradermal tests. Those sensitive must be desensitized in one of the approved ways. There is a group in which the risk is definite and should be watched more carefully. Briefly they are those coming from allergic families, those who have had horse-serum previously, and those giving mild intradermal reactions.

There are four classes to whom the serum should not be given:

1. Those with horse asthma.
2. Those who have had horse serum 7 days to 3 months previously.
3. Those with positive eye test or strongly positive skin test.
4. The very old, infirm, or those in extremis.

The most important point in the administration of serum is to give it early and adequately. After 96 hours of the disease, the administration of serum is a questionable procedure of much less value than when given early. The tendency is to give too small an amount in the first 24 hours. The first dose should not exceed 20,000 units, given at the rate of 1 c. c. per minute. Two hours later 40,000 units are given. The total dosage is determined by the type, an uncomplicated Type I. requiring 60-80,000 units while Type II. needs 80-100,000 units. A positive blood culture usually doubles the minimum required amounts; hence blood cultures are important in the extremely ill. Within 8-10 hours after the first injection, the temperature usually falls. If there is no response to serum, the sputum should be rechecked. Serum sickness occurs in 30-50 per cent of the cases, and cannot be predicted.

I would like to show a few slides which Dr. Julien Benjamin of Cincinnati has kindly loaned me. Dr. Benjamin, with Professor Blankenhorn, has just reported these studies to the American College of Physicians and they are the result of an excellently conducted pneumonia service at the Cincinnati General Hospital.

Lamar W. Neblett: One surprising thing about Dr. Henry's cases is the age, 16 years, as this is much higher than the usual age in the south. In the further north the age group is older, the average age in the south being as low as 5 years.

The reason I speak of this, is that, it is an important factor in the three types of attacks on this condition. When you are trying to aspirate and take care of empyema in a child of 8 years, it is a very difficult procedure. They do not take to a local anesthesia as will an older patient. Repeated aspiration is an ideal way of taking care of empyema and in being able to determine the surgical day or the day when surgery is indicated. This usually varies from 7th to the 10th day. Before this surgical day the aspiration can be taken care of, Dr. Henry has told us, and sero-sanguinous be obtained. This pleural effusion may be found in most post-pneumonic cases but usually is absorbed without pus formation. This is one reason for the relief of the very severe pain in early pneumonia cases which later subsides. An aspiration is done only to relieve embarrassed respiration.

Dr. Henry has been very modest about his mortality as quoted tonight. He failed to mention the deaths from empyema which were due to other complications of this condition. One point that might be emphasized is that the proper location of your drainage is important. It has been said by many writers that the biggest mistake is in trying to get the lowest borders of your cavity. It will sometimes happen that the drainage will not occur because of the liver pushing the diaphragm up so that the tube is obstructed. Being careful not to put the tube in too far is also important.

I had an unfortunate case of this kind where drainage was done and the child apparently recovered. The child was taken to the country and was apparently in good health. All at once the parents noticed a recurrence of the symptoms and the child died before it could be gotten to a hospital and treatment instituted. A post mortem gave us the information that the visceral pleura had ruptured with a valve-like opening into the pleura cavity and the spontaneous pneumothorax compressed both lungs until the child died of affixiation. The rupture of the pleura was most likely caused by the end of the tube.

The length of hospitalization of twelve days, that Dr. Henry has given us, is a very good average, the other type of treatment requiring a much longer time

M. M. Weiss: There is a practical point about the diagnosis of lobar pneumonia which I would like to present. Having been impressed with the infrequency with which lobar pneumonia is seen in private practice, I checked the autopsy findings of 450 patients with organic heart disease, who were examined at the Louisville City Hospital. Five, or 1 per cent had lobar pneumonia. Of these five cases only two were admitted to the hospital with signs of congestive failure. I think that one can safely say that if a patient with established organic heart disease develops pneumonia, there is a 99 per cent probability that the pneumonia is not lobar in form.

Edw. C. Humphrey: I agree that the study of 22 cases treated with antipneunococcus rabbit serum in the last A. M. A. Journal is a very brilliant one. Of 22 cases of pneumonia only one died and that one died with a ruptured thoracic aneurysm. And these patients were really sick—12 of them had positive blood cultures, 7 had two lobes, involved and in three, the pneumonia was on both sides. Two had infected pleural effusion, and cleared up without empyema.

A point of interest was that all of these 22 patients were sensitive to the rabbit serum by skin test. None were sensitive by conjunctival test. None were sensitive by intravenous test and there were no severe reactions to therapeutic dosage, in spite of the positive skin tests.

A. E. Cohen: Regarding intradermal skin testing with 1–10 horse serum, as suggested by the Rockefeller workers, I am afraid that in highly sensitive individuals such a concentration might prove extremely dangerous.

Drs. Simons and Rackeman, in their work in Boston, felt that a 1-1000 concentration of horse serum might be used as an intradermal test when scratch tests were negative. Dr. Simons, permits me to quote him to the effect that he has personally seen general reactions occurring after intradermal injections of 1-100 horse serum.

Regarding the fact that concentrated rabbit serum always gives positive intradermal tests, any concentrated serum, or food extracts for that he has personally seen general reactions reactions, but such reactions should be considered as non-specific reactions.

I do not want in any way to discourage the use of sera in the treatment of disease where such sera have been found to be beneficial. However, I do feel that a word of caution regarding the use of such agents may not be amiss for even a few fatal or serious reactions might seriously impede the general acceptance of a much needed specific therapy in the treatment of pneumonia.

Auatin Bloch, (in closing): I appreciate the kind attention and the gracious discussion accorded to my paper. I do not wish to elaborate further the subject of tuberculin testing, but would like to make two remarks on the subject of pneumonia.

Dr. Herbert Scheffer, of Brooklyn, had treated many cases of diphtheria with antitoxin, and he told me once that although he had seen many deaths from serum reactions, he had seen no such deaths in patients who had given positive skin tests.

The second remark is from Dr. Lee Palmer, and relates to the diagnosis of pneumonia in children. He quoted from a text-book written by Dr. John Lovett Morse of Boston, who said that even in the absence of physical signs, children with high fever and leucocytosis, in whom the ratio of pulse rate to respiratory rate was less than the usual four-to-one, should be suspected of having pneumonia.

M. J. Henry, (in closing): Though the average age of our cases was a little over 16 years of age will materially raise the average age. years of age. ,A few patients over fifty years of age will materially raise the average age. In the cases of empyema in children the exudate is often frankly purulent when seen, and in such cases an open operation should be done. While it is true that one reason for the prolonged hospitalization of the cases in which the aspiration method is employed is that the treatment is instituted much earlier than when the open method is utilized, it is nevertheless a fact that the necessity for the frequent repetition of the aspirations is the chief factor in the prolonged hospitalization. I believe that by following the conclusion I have reached from a study of the literature coupled with a review of our own experience one will have a high percentage of complete recoveries, few sequelae, a shorter period of hospitalization, and a mortality rate as satisfactory as can be obtained by any other method.

PREMATURE VENTRICULAR CONTRACTIONS IN A CHILD*

Edward C. Humphrey, M. D.

Louisville.

The patient, M. B., was seen at the Norton Infirmary Medical Clinic in October, 1935. He was then 13 years old. About a year before this, the school doctor had discovered an irregularity of his heart and had warned him against over exertion. His mother took him to the family doctor to check up on his heart, and he was sent into Norton Clinic by the latter for certain special tests.

He had had measles, mumps and whooping cough in early childhood; scarlet fever at one year of age, followed by enlarged submaxillary nodes. No hematuria. No more than average number of sore throats. Tonsils removed at age of 9 at advice of school doctor; patient doesn't know why. No rheumatic fever or chorea.

He had had no cardiac symptoms other than slight palpitation at times.

On examination the only findings of interest were cardiac. Rate 80. Rhythm very irregular, indeed it was hard to be sure whether the disturbance was due to premature contractions or to auricular fibrillation, although I thought it was the former. At times coupled rhythm existed for several seconds. The first sound at apex was loud and banging. There was a soft systolic at apex. Pulmonic second sound louder than aortic. No diastolic murmurs and no "presystolic" murmur (better called a late diastolic.) Blood pressure 125-80.

An electrocardiogram showed the irregularity to be due to premature ventricular contractions, and was otherwise normal. A 6 foot X-ray of heart showed it to be both normal size and normal shape.

On the basis of this I decided to tell the boy and his mother that he had a normal heart and that he need not restrict activity.

He was recently seen by his family doctor for another trouble (slight general lymphadenopathy) and in the course of working up the case, he found a normal blood count and a negative Kahn.

I saw the boy again today. He was feeling well and had no cardiac symptoms. He still has premature contractions, although they are less numerous, B. P. 130-75. Rate 76.

Several questions are of interest here. How long has he had the arrhythmia? We do not know prior to the school doctor's finding, when patient was 12 years old. However, his father told me that when the boy was only 5 or 6 years old, he (the father) had at times felt the boy's pulse when he was sick. He said he had frequently noticed that it would beat regularly for 10 or 15 beats and then "skip." I thought this was such a good description that I am willing to accept it as evidence of the existence of the premature contractions at that time.

Then what causes the arrhythmia? We do not know, but it is interesting that the boy has smoked cigarettes since the age of 8 or 9 years. Probably, however, the arrhythmia antedated this.

I had fully intended until today, to present this as a case of premature ventricular contractions in a child otherwise entirely normal. Today, however, I made a disconcerting discovery. In looking over his record I saw that no urine had been done. With a systolic blood pressure above normal for his age, this was indicated and, on testing it today I found a 2 plus albumen, with rare cast, occasional white blood cell, and no red cells (centrifugal sediment.) It is possible that this is an orthostatic albuminuria, but until that is proven, we must regard this as a mild latent glomerulo nephritis. I do not believe that this has any relation to his arrhythmia, but one cannot give him the clean bill of health on his cardiovascular status as I did at Norton. I believe, however, that the premature contractions are unrelated to the albuminuria, and themselves constitute no sign of disease and no reason for restricting activity.

DISCUSSION

J. Murray Kinsman: In spite of Dr. Humphrey's apple cart being upset, I think it still has been worth while reporting this type of irregularity in a young individual. Pediatricians can tell us how frequent these premature contractions do occur, for they are in a much better position to encounter them—since they are seeing children constantly. They are not particularly common at that age, I know, although as time goes on they may occur more frequently. Both Lewis and White make the statement that everybody has them at times after 20 to 25 years of age. I would like to have a few just to see how they feel. It is an interesting thing that some people complain so much about them and say they are a very uncomfortable sensation, while others have them frequently without ever knowing it. The degree of sensitivity of different individuals to the subjective symptom palpitation caused by these premature contractions is very variable.

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*Read before the Jefferson County Medical Society, June 7, 1937.

Of course there are many causes for extra systoles. We are all familiar with the effect of smoking and some of us even know of patients who quit smoking for a few days just prior to an insurance examination and then resume smoking after the examination. I have seen in at least two cases extra systoles so frequent as to cause coupled rhythm and to incapacitate the patient, disappear after a dose of calomel.

It is interesting to me that the school doctor warned this child to be careful. Whether he did it because the heart was irregular is hard to say. If it was only because of the irregularity, it was a fallacy. It is important to diagnose properly these types of irregularity. Simply to say that a heart is irregular tells us nothing. Sir James MacKenzie called extra systoles the "harmless type of irregularity" to distinguish it from auricular fibrillation which he called "the dangerous type of irregularity." Perhaps no better terminology exists today, for these terms express exactly the significance of the two conditions. There is no reason in the world to restrict this boy's activities. Ordinarily the presence of premature contractions calls for a thorough examination. If nothing is wrong, one can tell that person to have no worry about what is going to happen to his heart.

As for the cause in this child; I think smoking had nothing to do with it for they were noted before he began to smoke. Hypertension had nothing to do with it for it is certainly doubtful that he had hypertension as long as he had premature contractions. I think that we will have to consider the etiology in this case as being quite obscure as it is in so many other cases showing premature contractions.

Hemophilia in Women. — Bauer and Meller review the literature on hemophilia in female patients. They answer in the negative the question whether the hereditary rule, now generally accepted, applies to all cases of hemophilia. They think that there are families in which the hemophilic factor becomes manifest only in males, that occasionally there are families in which the men and the women show hemophilic symptoms, and that in rare instances only the women show hemophilic symptoms.

NEUROLOGICAL CHANGES ASSOCIATED WITH PERNICIOUS ANAEMIA*

JNO. J. MOREN, M. D.

Louisville.

There are comparatively few neurological clinical manifestations associated with Pernicious Anaemia. Mental symptoms occur in four to six per cent but they are not at all characteristic. The psychiatric picture is more in keeping with that seen in other anaemic cachectic states and arterial changes. They are seen in the late stages and more in the older patients. One case came under my observation for an irregular psychoses, which appeared several months before he developed the paraesthesia and anaemia. As soon as liver therapy was begun his mental symptoms cleared up.

The cranial nerves rarely show involvement even there is seldom seen alteration of the pupil reflex. Optic nerve changes consist mostly of haemorrhage into the retina from vascular changes rather than from anaemia itself.

Some authors claim that there is a peripheral multiple neuritis. Pathological evidence has been shown to verify these opinions. However most writers hold to the opinion that cord changes account for the nerve symptoms instead of a neuritis. It is reasonable to believe that in some cases there may be a neuritis, anaemia and possibly toxins are sufficient to produce neuritis in certain individuals.

The outstanding and most frequent neurological picture is that of sub-acute combined sclerosis. A degeneration of the long tracts in the cord, namely, posterior and lateral columns. This degeneration first appears in patches, which helps to explain the variation in the symptoms. This process is not characteristic of Pernicious Anaemia, it can be found in other toxic or cachetic states. Why so many Pernicious Anaemia cases should fall victims is not definitely known. Whether it is due to some toxin or anaemia is not known. It is a fact that most of the cases who have Spinal Sclerosis do not have a low hemoglobin. In fact neurological symptoms often appear before those of anaemia. The neurological symptoms send the patient to the doctor. Some writers go so far to say that if there is a low blood count without nerve symptoms the chances are in favor of the individual never developing cord changes.

I do not believe this will hold true as I have seen cases develop after a prolonged illness from anaemia. It is generally accepted that some individuals, as in Locomotor ataxia are more liable to develop subacute combined sclerosis.

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*Read before the Kentucky State Medical Association, Paducah, October 5, 6, 7, 8, 1936.

Symptoms: Neurological symptoms usually appear in the first to third year of anaemia. The most common complaint is paraesthesia, numbness, tingling, burning sensation mostly confined to the distal extremities. This occurred in 80-90 per cent of all cases of Pernicious Anaemia. Whether this symptom is of cord, nerve or sympathetic in origin is debatable. Then comes the gait; a weakness with ataxia, they can't control their feet. Involvement of the posterior columns explains this. There is rarely any pain, rarely a girdle sign, and no bladder symptoms in earlier stage. On physical examinations, the finding varies, according to the duration of the illness. If little degeneration has occurred naturally there is only slight changes in sensation, reflexes, or coordination. It also varies with the involvement of different tracts in the cord. For instance, if the posterior columns suffer most, sensory changes and loss of reflexes, and ataxia predominate. If the Lateral columns suffer most, we have increased reflexes, Babinski sign and spastic weakness in the lower extremities. The deep reflexes are usually hyperactive with a Babinski sign. Sensation is decreased and especially the deep sensibility, joint and posture. All of these symptoms become more pronounced as the degeneration increases and in final picture is paraplegia.

The diagnosis of combined sclerosis should not be difficult. The blood picture of Pernicious Anaemia is diagnostic, but frequently neurological symptoms appear before the blood shows the characteristics of Pernicious Anaemia. Frequently Anaemia is suspected and verified by a competent laboratory. There are certain combinations of symptoms that should arouse suspicion. First, the general paraesthesia and comparative little diminution of common sensation, with diminution of deep muscular or joint sense. Second, diminution of the deep reflexes with a Babinski's sign. Third, weakness and ataxia or incoordination without pupillary signs. Fourth, the absence of pain with marked or prominent symptoms of sensory change. In multiple neuritis there is usually sensitiveness to pressure with loss of motor power, not ataxia. In tabes the pupillary, early vesical difficulty, pain and absence of Anaemia. Occasionally interesting questions arise. Two cases came under my observation, who had apparently combined sclerosis, possibly resulting from hair dye. One made a complete recovery, the other left the state and has not been heard from.

Prognosis: Grinker says that those cases with tingling and numbness as the earliest sign, 80 per cent will develop cord disease. Those with tingling and numbness developing along with Anaemia will show only 20 per cent of cord disease. I feel that we should be careful in interpreting this tingling and numbness. A feeling of numbness without positive loss of any sensation is of less value than when the patient can not recognize money in his pocket or appreciate the passive movements of his toes. I have seen the feeling of numbness and tingling disappear and the patient remain well. Those with loss of deep or joint sense require continued treatment.

It is estimated that from 40 to 50 per cent of all cases of Pernicious Anaemia will have definite cord lesions. This per cent does not include those that suffer from paraesthesia alone. They are the cases that show pathological signs, as Babinski, hyperactive or loss of reflexes. Positive sensory changes with ataxia. Previous to the use of liver therapy the average duration of life in pernicious anaemia was about four years. Since the development of liver therapy there is no question about the prolonging of life, it has succeeded. Several writers have tried to show what influence liver therapy has had in preventing combined sclerosis. Some reports have been discouraging and some most favorable. In a recent article by Needles he shows a series of cases, that had adequate treatment, were living and in good health, four to eight and one-half years after the onset of Anaemia, and these show few neurological symptoms. This series was not picked cases. They were those in which a diagnosis was made early and had adequate treatment. This was the most recent and careful report I found in Medical literature. Other reports were reviewed but they are not as optimistic. In answering the question whether liver therapy will prevent sclerosis, several facts must be considered. First. The fact that certain individuals, some say the blue eye, blond, and fair skin are more prone to have sclerosis.

Second. Early diagnosis and adequate liver therapy. The amount of liver as a maintenance dose, varies with the individual.

Third. One must not take the Hemoglobin as an index, for the amount of liver required. Sclerosis does develop when the per cent of hemoglobin is relatively good.

Fourth. Hyland of Toronto has demonstrated that rest in bed is most beneficial.

Fifth. Question of feeding vitamins A and B. An English writer showed that the vitamin A deficiency produces cord lesions in animals similar to those of combined sclerosis in man; others look upon vitamin B deficiency as an important factor.

What can be done for those who have the typical picture of combined sclerosis. Hyland, (Archives of Neurology and Psychiatry, Dec. 1936), reported the study of 172 cases of Anaemia. There were 74 definitely diagnosed combined sclerosis. The improvement following the plan of treatment was, 41 marked improvement, 16 moderate, 9 slight, 8 died shortly after entering the hospital. For the general run of hospital cases this is a very hopeful report. The basis of his treatment was liver therapy with rest in bed. Some remained at rest as long as twelve months. Several years ago it was suggested that these patients should not get off of their feet, keep going. Previous to liver therapy such procedures might keep them walking a longer time but certainly did not lengthen life. Hyland states, that the patient walks better after the rest, but we must give credit to the liver therapy as the important factor. Such results could not be accomplished without it. Hyland showed improvement or disappearance of many symptoms which are regarded as of organic origin. He states that in no case was there real progression of nervous symptoms. This report was most carefully studied and should be read by those interested.

You may ask how these results are accomplished. Previous to the liver therapy such improvement was never noted. Consequently we must say that it is primarily the liver substance. It replaces something that is essential in making blood. It has been generally regarded that when degeneration of the cord takes place it is never restored. However, symptoms suggesting organic change in the cord can occur as the result of minor changes as edema and if this process can be corrected the symptoms disappear. Some writers hold that sub-acute combined sclerosis is the result of atoxic gastrointestinal condition. If so, the liver, hydrochloric acid and vitamin B may correct this situation and check the cord degeneration. This is the explanation of the disappearance of supposed organic symptoms. The relief of the weakness is dependent upon the general improvement of the individual, resulting from the blood building qualities of the liver substances. The regaining of the ability to walk or control of the limbs is the result of the general increase in strength, better function of the spinal cord. I am satisfied that attention directed towards the digestive tract is not only of value in cases of pernicious anaemia, but of special value in those who develope combined sclerosis. I have seen cases slow to respond to liver extract that would respond to ventriculin. Again I have seen the combination of liver extracts and ventriculin give best results. It is accepted that the stomach furnishes an intrinsic factor in forming the liver substance. It is interesting that no cases of pernicious anaemia have followed total gastrectomy. Recently a report has been made on the favorable influence of dessicated duodenal mucosa from the hog. I have seen two cases of pernicious anaemia following gastro-enterostomy for duodenal ulcer. My preference has been extralin which is supposed to contain the stomach substance as well as liver substance. After the patient has gotten on his feet I believe that it is of service to try and re-educate the use of the limbs just as we would in case of locomotor ataxia. This is assumed that the patient is well advanced in the cord degeneration and that the patient is able, or has sufficient strength to take exercise.

My personal experiences lead me to believe that there has been an increase in the number of Pernicious Anaemia. I know I have seen more combined sclerosis in the past ten years. Young makes an interesting statement; he reports more cases of Combined Sclerosis since the use of liver than before. A percentage of twenty-six to sixteen per cent. He also says that Pernicious Anaemia occurred more frequently between the ages of fifty to sixty. Dana made this statement in his text book many years ago. Of those I have seen the ages were mostly beyond fifty. I had one patient, age fifty-three, with Paraplegia in 1934. Today she is in good health and doing her house work. An interesting experience occurred with this patient. She contracted Influenza with a high temperature and I was particularly concerned about the outcome of her anaemia. To my surprise after she recovered from the Influenza she made a more rapid improvement than she did previous to the acute illness. I have seen a similar experience reported in the literature. Another age sixty-seven, in 1933, was able to walk with difficulty but showed marked improvement. Unfortunately she broke her hip in 1936, and the last report I heard from her, she was walking with assistance. Another case became paraplegic, developed Cystitis which required a retention catheter. This man improved so that he could walk with help and regained the bladder functions. But unfortunately he made a long auto trip which exhausted him so much that he never held the improvement. These personal experiences of severe cases convinced me that something can be done for these patients.

In addition to adequate liver I am satisfied some form of stomach extract is of distinct value in treating Neurological symptoms. In addition to these I am old fashion enough to still hold confidences in Arsenic, Iron, Quinine and Strychnine and Syrup Iodide of Iron. We should not lose sight of the advantage of rest and massage or any procedure to help restore muscular tone, which means ability to take part in life's affairs, and to create a better spirit and enjoyment in living.

MEDICAL EDUCATION IN ENGLAND

J. Keller Mack, M. D.

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Perhaps my subject should be called "Medical Education in London" because each city in the Isle has its own system which varies from the others, at least in certain details. However, the training in London is considered one of the best and is the one with which I am most familiar. Indeed, if a man wishes to practice as a specialist in London or, I should say "Consultant," he must have taken his work there or at least passed one of London's qualifying examinations. If he has trained in London he usually has great prestige in the "provinces." As you know, to the Londoner the provinces include all British territory outside the city of London.

Let me first say a word about education preliminary to the medical studies. England does not have the simple and universal system of grading that we enjoy in this country. There is a jumble of forms, standards and classes that confuse even an Englishman unless he has been through that particular school himself. In many schools promotion is by examination only and when a student has mastered a subject he is promoted, if that be after one year or three. As a result the age at which the individual student starts at the University varies considerably. However the minimum age is usually sixteen: for Oxford and Cambridge is eighteen, and for most of the London schools it is seventeen.

Admission to a University such as Oxford, Cambridge or London is gained by taking entrance examinations, or the student may go directly to a medical school such as St. Thomas's, Guy's or St. Bartholomew's after completing his preparatory training. Consequently he may theoretically start at an earlier age than in this country. Actually however the English medical student is about the same age as the American.

As in America the student may spend as much time as he likes above a required minimum in the premedical subjects. However, in England a distinct line is not usually drawn between premedical and medical work. The line comes between the preclinical and clinical subjects. Those who go to Oxford or Cambridge usually spend at least three years in the preclinical studies of Chemistry, Physics, Biology, Anatomy, Physiology (which includes Bio-Chemistry) Pharmacy and Materia Medica. They then transfer to a hospital and begin clinical studies.

Let us trace the course of a student who wishes to go through as rapidly as possible and enrolls directly in St. Thomas's Hospital, which is located on the South Bank of the Thames and is so old that no one knows just when it was founded.

He plunges immediately into the sciences of Chemistry, Biology and Physics, and these three subjects occupy his first year. (The pre-clinical years are of the same duration as ours with a summer vacation, i. e. about nine months). During the next two years he studies Anatomy, Physiology and Pharmacology. The greater part of this time is spent in Anatomy, the dissecting room usually being open for work from 9:00 a. m. to 5:00 p. m.

The student, after passing examinations in the foregoing subjects then begins his clinical course, and at St. Thomas's as at all the larger London hospitals he is joined by students from Oxford and Cambridge who want to come to London for their hospital work. The school year now is twelve months long, divided into four terms of three months each. There are vacations at such times as Christmas and Easter but there is no long summer vacation. The student may start at the beginning of any one of the four terms, at which time the appointments change.

The period of clinical work varies in the London Hospitals from thirty-three to thirty-six months, depending on which degree the student wishes to take. I will not try to explain the degrees which vary from a simple one like M. B. to a tongue twister such as M. R. C. S., L. R. C. P., as the differences aren't important for our purposes.

During the first three months he is assigned to the Casualty Department under the supervision of the Assistant Resident Surgeon and Casualty officer. This Casualty Department needs some explanation for I do not believe that our hospitals have a comparable department. To the Casualty office come all new out patients who have not been previously referred to special departments of the clinic. Thus he sees all emergencies and a great many patients coming in for minor illnesses. If he can he treats them himself or if they need a detailed investigation he refers them to a special clinic. The emphasis for the student is put on the surgical side and he thus sees a great deal of minor surgery. Lecturess and demonstrations are given in elementary surgery, bandaging, appliances, instruments, etc.

The next three months are more academic, the student receiving instruction in practical Pathology, Bacteriology and Chemical Pathology. He is taught various laboratory procedures and spends two afternoons a week in the post-mortem room. The class is divided into small groups and they spend part of each week in the wards, being taught the principles of physical diagnosis.

Our student then moves on to be a "clerk" in the medical unit. He is assigned to several cases for study and is responsible for their notes. He spends his mornings in ward rounds and receives individual instruction on his cases. Demonstrations in Pathology bearing on the cases studied are given by the Pathology Department. The afternoons are spent in Laboratory work.

At the beginning of his fourth three-month term the student is assigned as clerk to one of the staff physicians on Medicine. He is assigned a larger number of patients and is responsible for histories and progress notes. He makes ward-rounds and observes and assists in the various diagnostic procedures and treatments. During this time he is also attending special lectures on medicine.

For the next six months the scene is shifted to the surgical department. The student is appointed "dresser" to one of the surgical "firms." A firm is a group of students and interns with a staff surgeon at its head. The dresser is assigned cases in rotation and is responsible for their notes, assists at operations and helps the house surgeon with the after care. During this period he is instructed in surgical pathology, anaesthesia, surgical anatomy, fractures, etc. After completing his in-patient work and while preparing for his examinations on surgery he may work in the surgical out-patient department.

The student spends his seventh and eighth three-month terms on Obstetrics, Gynecology and Pediatrics. The idea at St. Thomas's is to present in chronological order the sequence of pregnancy, (prenatal work), delivery (Obstetrics), maintaining the mother's health during the reproductive period (Gynecology), and the following of the growing child (Pediatrics). He begins with the ante-natal clinics, and infant welfare clinics and is given instruction in the management of labor. For the second month he attends deliveries in the home. He is then assigned to the Gynecology service for two months, both in and out patients. His final two months he spends in the welfare clinics and the in and out patient pediatric service. At various times he attends lectures and courses on Obstetrics, Gynecology and Pediatrics.

From this time on until he completes his thirty-three or thirty-six months of clinical practice the student is engaged in the special branches of medicine, particularly in the out-patient department. He may also attend ward rounds as time permits. He is then ready for his final qualifying examinations.

Clinical lectures, illustrated by cases, are held at Guy's, St. Thomas's and St. Bartholomew's Hospitals for students of all three hospitals. They may attend any of these and a certain number are required.

It will be noticed that the time spent on clinical subjects is not divided into years but rather into subjects. For example the student takes all his surgery at once unless he elects to go back to the surgical wards or out-patient departments during his spare time.

A point that is interesting in contrast to our system is that the student is allowed to repeat as many times as is necessary to pass the examinations. He is very seldom "flunked out" of the school and some of the poorer students have spent as many as eight years or more before securing a degree. This ruling has made it possible for the development of the character, well known in plays and books, who spends his years having a good time and really expects to fail his examinations.

The impression one gets is that English examinations are more frequent and even more difficult than ours. Examinations are also continued after the student is qualified to practice. For example the examinations for the Royal College of Physicians last approximately a week and are so difficult that only twenty per cent can expect to obtain their membership.

Teaching methods in the London Hospitals are very much like ours in principle, with lectures, laboratories, clinics and bedside work but the impression one gets is that the English physicians put more emphasis on clinical diagnosis and less on laboratory work than many of our American teachers.

In summary I may say that the English medical student, as compared to the American, can if he desires spend less university time in the premedical subjects but he has more actual time in the hospital.

Tobacco, Thrombo-Angitis Obliterans and Coronary Artery Disease — The studies of Trasoff and his associates do not justify the contention that hypersensitiveness of the vascular system to tobacco is the mechanism in thrombo-angitis obliterans and coronary artery disease. They have frequently noticed direct relationship between vascular crises and smoking, whether symptoms occurred in the lower extremities or in the coronary system. Three patients with thrombo-angitis obliterans and four with coronary disease volunteered the information that smoking initiated pain. Definite electrocardio-graphic changes were demonstrated during the process of smoking in a few patients.

SYNCOPE*

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Syncope or fainting is not as common today as it was in the "lavender and old lace" era. Women especially fainted with little provocation. Unless all emotional reactions even from minimal stimuli were accompanied by a fainting fit the individual was considered cold and hard-hearted. The vanity table of the twentieth century woman is rarely bedecked with a vial of smelling salts and the modern girl prides herself on her ability to "take it." The "fainting type" of woman is looked upon with scorn even by her sisters.

Despite this change in mass psychology, syncope still occurs with sufficient frequency as to warrant a discussion of its mechanism and treatment in the light of modern cardiovascular dynamics. Such a discussion is particularly important if we admit that the benign type is becoming less frequent. Hence the physician should give serious consideration to the patient who has had a syncopal attack.

This paper will discuss fainting only from a cardiac viewpoint. Cardiovascular syncope usually occurs as a result of a sudden disturbance of the normal cardiovascular dynamics whereby there is a diminished ventricular output, a fall in blood pressure and insufficient blood supply to the brain. The recumbent position is therefore best for the person who has fainted and a fainting attack may sometimes be averted by placing the head on the hands between the knees. The disturbance often repeats itself so that the average patient gives a history of several attacks. There are numerous abnormal cardiac mechanisms which can cause fainting and since treatment depends on the cause, an etiologic diagnosis is necessary. The following is a discussion of some types:

1. Vasovagal syncope: So named by Lewis because the cause of the syncope is a combination of vasomotor and vagal effects. This is the most frequent type of fainting attack and fortunately the most benign. Very often it results from an emotional reaction. Thus it is the type of fainting which accompanies good or bad news, some unpleasant sight, undue excitement. It also explains the fainting which occurs from slight fatigue in hot weather, from painful stimuli, the onset of menstruation, etc. A debilitated state is an especially predisposing factor. It is the classical fit, thrown especially by women when they desire to avoid an unpleasant situation. Under such circumstances, f-a-i-n-t, might well be spelt, f-e-i-n-t. Complex mechanisms are responsible for the unconsciousness of vasovagal syncope. For unexplained reasons, splanchnic dilatation occurs so that the amount of blood reaching the heart is decreased. This causes a decrease in the cardiac output. Simultaneously there is a lowering of the pulse pressure, and a fall in the systolic and diastolic blood pressures. The heart rate is usually fast at first but as unconsciousness supervenes becomes slow as the result of vagal inhibition. This combination of vasomotor and vagal effects with probably still other unknown physiological derangements results in syncope. Unexplained in the manner in which the mechanisms get started, especially from psychic causes. The treatment of the individual attack is well known, recumbent position, plenty of air, inhalation of aromatic spirits of ammonia, cold compresses. In susceptible individuals attacks may be prevented by wearing tight abdominal binders, proper exercise, psychotherapy and the correction of other predisposing factors. Individuals who have been in bed for prolonged periods of time should gradually assume the upright position.

2. Stokes-Adams attacks associated with complete auriculo-ventricular dissociation, or heart block, organic in origin.

The block may be transient or permanent. While sudden cessation of ventricular action can occur, seizures are usually the result of slowing of the idioventricular rate until complete standstill of the ventricle takes place. Cerebral anemia with syncope may result when the idioventricular rate is 6-8 per minute. Attacks vary in severity and frequency. Death may occur in an attack. The immediate treatment is subcutaneous injection of adrenalin which increases the rate and strengthens the contractions of the ventricles thus increasing the blood supply to the brain. To prevent Stokes-Adams seizures, barium chloride 1-2 to 1 grain. t. i. d. or ephedrine hydrochlorid 1-2 to 1-4 grain t. i. d. are valuable. These drugs increase the irritability of the focus of impulse formation in the ventricle and hence prevent the rate of falling to levels which could cause syncope. In certain patients with heart block the cerebral anemia is not the result of the above mechanism but is due to transient periods of ventricular fibrillation. Since adrenalin is contraindicated in ventricular fibrillation, the differential diagnosis of the mechanism responsible for the Stokes-Adams attack is very important. Schwartz and Jezer have suggested the use of small doses of adrenalin during the free intervals to make a differential diagnosis. In patients in whom standstill of the ventricles is responsible for the syncopal attacks, adrenalin merely accelerates the basic idioventricular rate. In patients in whom the underlying mechanism responsible for syncope is transient ventricular fibrillation, adrenalin produces short recurrent periods of ventricular excitation. Fortunately these transient attacks of ventricular fibrillation in heart block are rare.

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*Read before the Jefferson County Medical Society.

3. Stokes-Adams attacks reflex in origin. Transient attacks of cardiac standstill producing cerebral anoxemia may occur through a reflex increase in vagus tone in the absence of organic disease of the conduction system of the heart. The reflex can be started from tumors of or hemorrhage in the eye (the oculo-cardiac reflex). When the reflex is initiated by disease of the oesophagus, pharynx, larynx or bronchi, it is called the vago-vagal reflex by Soma Weiss. The vagal type of carotid sinus reflex to be later discussed, comes under this mechanism. Atropine, ephedrine or quinidine may prevent attacks. Treatment, of course, of the local disease is indicated.

4. Onset of complete heart block. This may be associated with a fainting attack. In these circumstances cerebral anemia results from a standstill of the ventricles until they assume their independent rhythm. The syncope accompanying an acute coronary artery occlusion probably results from this mechanism and it also may occur in the transition from partial to complete block.

5. Sino-auricular block: Due to suppression of activity of the sino-auricular node there is complete cessation of auricular and ventricular action. If the block lasts several seconds fainting can ensue. Atropine sulphate in doses as high as 1-25 grain are valuable in abolishing the block.

6. Paroxysmal Tachycardias: The tachycardia may be auricular, nodal or ventricular in origin or may result from auricular fibrillation, auricular flutter or ventricular fibrillation. At times only premature contractions may be responsible. In other words with the sudden onset of any rapid or irregular heart rate the cardiac output is reduced, the blood and pulse pressures are lowered and cerebral anemia severe enough as to cause unconsciousness results. Consciousness of palpitation, regular or irregular, before and after the syncope may be a clue to the diagnosis. In addition these patients often state that they pass large quantities of urine after the attack, Ventricular tachycardia has an especially bad prognosis and ventricular fibrillation is usually fatal. The chief cause for fainting attacks in patients with coronary artery disease is ventricular fibrillation whereas paroxysmal auricular tachycardia more often occurs in individuals with no organic heart disease. Quinidine sulphate will abolish these attacks of cardiac arrhythmia or lessen their frequency. If it is not effective, digitalis should be tried. In paroxysmal auricular tachycardia reflex effect on the vagus such as pressure on the carotid sinus. pressure on the eye-ball (the oculo-cardiac reflex), forced expiration or vomiting can stop an attack. An occasional patient claims that some attacks are stopped by assuming certain positions.

7. Postural or Orthostatic Hypotension: In this condition there is loss of the usual physiological adjustment to the upright position. The normal cardiovascular changes which occur when the body moves from a horizontal to an erect position consist of a slight fall in the systolic pressure, a rise in the diastolic pressure and an increase in the heart rate. The fall in systolic pressure is the result of the hydrostatic effect of gravity. To overcome this, the heart rate increases and vasoconstriction of the peripheral circulation takes place which causes a rise in the diastolic pressure. As a result cerebral anemia does not occur. In orthostatic hypotension there is a marked fall in both systolic and diastolic pressures and only a slight increase in heart rate. Consequently the individual may faint. The cause for this lack of circulatory adjustment is unknown and while it occurs in lesions of the spinal cord, especially tabes dorsalis, there are certain patients who can be placed in a distinct entity called orthostatic or primary hypotension. In addition to dizziness and fainting, these cases may have either localized or generalized deficiency of sweating, accentuation of symptoms in hot weather and excretion of larger volumes of urine in the recumbent than in the erect position Ephedrine sulphate 1-2 to 3-4 gr. every 4 hours frequently will give symptomatic relief. Benzedrine sulphate in 10 mg. doses is also of value.

8. Hyperactivity of the Carotid Sinus Reflex: Clinicians have always known that pressure over either vagus sheath at about the level of the thyroid cartilage would produce slowing of the heart and, in certain individuals, cardiac standstill. It was presumed that the decrease in the heart rate was the result of direct pressure on the vagus, hence the phenomena was known as "vagus pressure test." Although used by some to differentiate vagotonic from sympathacotonic individuals, the test had a special value in stopping attacks of paroxysmal auricular tachycardia. Subsequent study has shown that the vagus is only indirectly concerned with the slowing of the heart and that the carotid sinus is responsible for the phenomena. Hence the test is now known as the "carotid sinus reflex" or the "Hering reflex" since Hering was chiefly responsible for the elucidation of its mechanism.

The carotid sinus is the slight bulging of the common carotid artery at the bifurcation of its internal and external branches. It has an abundant supply of sensory nerve cells especially in the adventitia. Efferent impulses leave the sinus chiefly by way of the intercarotid (carotid sinus) nerve which is a branch of the glossopharyngeal nerve and reach the medulla. From here efferent impulses go to the heart through the motor fibers of the vagus. They also may travel through the vaso-motor depressor nerves or can have a central pathway in the brain. Irritation of the sinus wall, either external or internal, causes: (1) slowing of the heart which may go into asystole and (2) a fall in blood pressure. The slowing of the heart is due to a reflex increase in efferent vagus tone. The fall in blood pressure is a result of vasodilatation. Cardiac slowing if it occurs, aids in the depression of the blood pressure.

The test is carried out as follows: the patient is in a sitting or erect position with the head extended. The heart rate is determined, then the sinus is compressed toward the vertebral column for ten to thirty seconds, and the heart rate is again counted. Simultaneous blood pressure observations are made. As a control, pressure above or below the sinus may be applied. If one side produces negative results the other should be tried. The performance of the test has not been known to produce harmful effects but bilateral compression should not be attempted. If the reflex is positive, dizziness, fainting and convulsions may occur. The attack lasts several minutes. In some cases fainting occurs with only cardiac standstill—the vagal type; in other patients the blood pressure alone falls to a level low enough to produce cerebral anemia—the depressor type; and finally fainting may occur with no fall in blood pressure or change in heart rate but probably occurs as the result of cerebral vasoconstriction, the cerebral type.

When pressure over the carotid sinus initiates an attack of fainting similar to that which brought the patient to the physician, an over active reflex may be held to be responsible for the symptoms. Pressure on the sinus such as by a tight collar, local tumors or sudden twisting of the neck may initiate over activity of the reflex. Local disease as sclerosis in the carotid sinus, vagal center or the heart accentuate the reflex. Since digitalis likewise has a sensitizing effect, Weiss and his associates point out that the pre-operative use of this drug in combination with the administration of volatile anaesthetics and the usual manipulation about the neck coincident with the anaesthesia may cause such operative complications as temporary vasomotor collapse, cardiac arrhythmia or sudden death. Under-nourishment, menstruation and emotional upsets also can sensitize the reflex. Treatment where local pressure is not a factor is not encouraging. Adrenalin, atropine, ephedrine, quinidine and novocainization of the sinus temporarily abolish the reflex. However denervation of the carotid sinus as well as the removal of local pressure factors has given permanent relief.

9. Coronary Artery Occlusion: Syncope is often associated with the onset of a coronary artery occlusion. There are several possible explanations for the cerebral anemia: the onset of heart block which is usually transient; a paroxysmal tachycardia or merely the sudden cardiac weakness resulting from the myocardial infarct. When the occlusion is of the painless type, the syncope has an especially important significance. coronary artery disease should be considered in every individual beyond forty years of age who has fainted.

10. Aortic Stenosis: Attention has been refocused recently on the frequency of syncope in this condition. Death can occur in an attack. The mechanism is not clear. Quinidine sulphate may have value in preventing attacks.

As investigation of this alluring symptom, syncope, continues, new entities will be evolved. While attention was concentrated on syncope from a cardiac viewpoint, time does not permit a discussion of shock or peripheral vascular failure, or fainting occasionally associated with angina pectoris, dissecting aneurysm of the aorta, and other frank cardiovascular diseases. Nor will there be a discussion of the differential diagnosis from the loss of consciousness which accompanies epilepsy, hypoglycaemia. Meniere's disease, collapse while bathing in cold water, brain tumors or other neurological disorders.

DISCUSSION

John J. Moren: I am one of the typical individuals who open the discussion on a subject with which they are not familiar. My knowledge of circulatory disturbances is limited. The differential diagnosis between fainting attacks and epileptic seizures is important. The question of fainting can become a serious proposition.

We frequently have the history of individuals suffering from epileptic seizures who in their early life fainted at the slightest provocation. One particular case which I recall fainted in her early life and then began to have severe falling spells, even injuring herself, therefore it is important to distinguish and try to prevent recurrence of fainting spells. Our object is to prevent the habit of fainting or having convulsions.

In a typical epileptic attack we have the aura, which can develop in any of the five senses. This aura is of a short duration and travels up to the head and they lose consciousness. It is the duration of the aura that I wish to call your attention.

Take the aura of a typical Jacksonian attack. It may last some little time before the seizure, just like the aura or feeling, or warning of an attack of migraine. They know for several hours they are going to have a severe headache. The aura, as I understand it, which occurs in the seizures arises from the carodic sinus. Hypersensitiveness is more of a tingling or peculiar feeling from a circulatory disturbance, and may be bilateral. I have never seen a bilateral aura in a typical epileptic.

Most of these carodic sinus manifestations are of a fatal type, and bring up the question of the distinction between petit mal and fainting. A point which will enable you to recognize this situation is that in a faint there is paleness before loss of consciousness, while in petit mal it occurs, if at all, after loss of consciousness. Another point in cardiac conditions, we have a variation of the pulse previous to the faint, and during the faint, while in petit mal there is practically no circulatory manifestation.

Fainting individuals rarely hurts themselves because they are frequently warned beforehand, and have an opportunity to place themselves, and again they are so relaxed that the fall does not hurt, just like a drunken man.

Another point of interest, Hughling Jackson says to establish epilepsy we must have the presence of some muscular spasm. Even in cases of minor attacks you will notice that the muscles are fixed for the time being. This does not occur in fainting or syncope.

Acton of Arsenic on Nails.—Simons directs attention to the fact that in arsenic poisoning, particularly in arsenical polyneuritis, the appearance of diagonal white stripes, the so-called Mee's stripes, on the nails is a characteristic sign. Not only are these stripes helpful for the diagnosis, but by taking into consideration the average rate of growth of the nails it is possible also to determine the time when the poisoning took place. After reviewing the literature on leukonychia striata transversa arsenicalis, the author reports two cases. The first patient, a man, aged 32, had psoriasis with inghal and subungual hyperkeratosis. The ungual psoriasis responded to treatment with arsenic and it proved possible to determine the beginning, the duration and the course of the action of the arsenic. Two months elapsed before the effect of arsenic medication became apparent on the nails. The second patient had arsenical polyneuritis. From the diagonal white stripes on his nail it was computed that the acute arsenic poisoning must have taken place six months before. Although chronic exposure had begun two and a half years earlier, when the patient first took up his hobby of stuffing birds (using arsenic), the white stripes on the nails indicated that an acute poisoning had taken place only six months before.

BOOK REVIEWS

PREOPERATIVE AND POSTOPERATIVE TREATMENT: By Robert L. Mason, A. B., M. D., F. A. C. S. Assistant in Surgery at the Massachusetts General Hospital. Octavo of 495 pages with 123 illustrations. Cloth, $6.00 net. W. B. Saunders Company, West Washington Square, Philadelphia, Publishers.

This fine new book is of great importance to the general practitioner and the surgeon beause it is a thoroughly modern discussion of the problems of pre- and postoperative care. It was planned from beginning to end to provide you with practical assistance in solving those problems of surgical care that constantly present themselves in regular medical and surgical practice. Here is a book that gives you not only the knowledge of one authority but includes the experience of several others especially familiar with questions of a special nature. It gives you first the problems of general significance: Surgical risks, care of the wound, heart complications, the diabetic, etc., including two unusually fine chapters on Burns and each type of Anesthesia—chapters that you will value because of the wide importance of these subjects. It takes up individually the special operations of the various parts of the body and furnishes sound, concise, advice on what you should do, when you should do it, and how you should do it.

It is helpful in virtually every Pre- and Postoperative procedure. The mental as well as the physical care is given for general and special conditions. There is precise guidance on the care of both complicated and uncomplicated cases, on preventive measures, causes, signs, symptoms and the diagnostic use of tests, physical examination and x-ray. The directions for treatment are particularly full and include the clinical application of diet, rest, drugs and other measures that have been used successfully—both in the hospital and in the home.

PARENTERAL THERAPY, A READY REFERENCE MANUAL OF EXTRA ORAL MEDICATION FOR PHYSICIANS, DENTISTS, PHARMACISTS, CHEMISTS, BIOLOGISTS, NURSES, MEDICAL STUDENTS AND VETERINARIANS: By Walton Forest Dutton, M. D., formerly Medical Director, Polyclinic and Medico-Chirurgical Hospitals, Graduate School of Medicine, University of Pennsylvania, Visiting Physician, Northwest Texas Hospital, St. Anthony's Sanitarium, Director Research Laboratories, Amarillo, Texas, Col. Medical Officers' Reserve Corps, U. S. A. and George Burt Lake, M. D., formerly special lecturer in Hygiene, Purdue University, Editor Clinical Medicine and Surgery, Educational Lecturer, Illinois State Medical Association, Col. Medical Officers' Reserve Corps, U. S. A. Illustrated with 90 halftones and line engravings. Charles C. Thomas, Publishers, Springfield, Illinois, and Baltimore, Maryland. Price $7.50 postpaid.

SURGICAL TREATMENT. — By James Peter Warbasse, M. D., F. A. C. S., Special Lecturer in the Long Island Medical College; Formerly Attending Surgeon to the Methodist Episcopal and the Wyckoff Heights Hospitals, Brooklyn, N. Y., and Calvin Mason Smyth, Jr., B. S., M. D., F. A. C. S., Assistant Professor of Surgery in the University of Pennsylvania, Graduate School of Medicine; Surgeon-in-chief to the Methodist Episcopal Hospital, Philadelphia, Pa.; Visiting Surgeon to the Abington Memorial Hospital, Abington, Pa. Second Edition, Thoroughly Revised and Reset. Three Volumes with Separate Index. 2617 pages with 2486 illustrations on 2237 figures, some in colors. Phiiladelpha and London. W. B. Saunders Company, 1937. Cloth, $35.00 set.

The Treatment of Surgical Diseases and Conditions—this is just what this remade edition of Warbasse-Smyth's "Surgical Treatment" gives you. It is both medical and surgical—a thorough, practical and comprehensive presentation that is not confined to surgical technic alone, but includes as well full and detailed discussions of serums, vaccines, physiotherpy, heliotherpy, x-ray, drugs, diet and other non-operative measures.

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(3) Via the lungs: i. e., by inhalation or injection. With ninety practical illustrations. Price $7.50 postpaid. Charles C. Thomas, Publisher, Springfield, Ill., Baltimore, Md.

CLINICAL ENDOCRINOLOGY. — By Samuel A. Loewenberg, M. D., F. A. C. P. Clinical Professor of Medicine, Jefferson Medical College, Philadelphia, Assistant visiting Physician Jefferson Hospital; Visiting Physician, Philadelphia General Hospital; Northern Liberties Hospital, and Eagleville Sanatorium for Consumption; Consulting Physician to the Philadelphia Hospital for Contagious Diseases; Author of Diagnostic Methods and Interpretation in Interinal Medicine. Foreword by Hobare A. Reimann, M. D., Professor of Medicine and Clinical Medicine, Jefferson Medical College, Philadelphia. With 194 illustrations and 37 charts and tables. F. A. Davis Company, Philadelphia, Publishers. Price $8.00.

This volume fills the long wanted need for a concise, clear and comprehensive study of the endocrine system. Although endocrinology is a new science the literature has become so vast and voluminous that few students and practicing physicians are able to disengage themselves from the intricate maize that surrounds them.

CLINICAL URINALYSIS AND ITS INTERPRETATION.—Robert A. Kilduffe, A. M., M. D., F. A. S. C. P.

Director of Laboratories, Atlantic City Hospital; Pathologists, Atlantic County Hospital for Tuberculosis Diseases; Serologist, Atlantic County Hospital for Mental Diseases; City Bacteriologist, City of Atlantic City; Serologist, Municipal Hospital for Contagious Diseases; Atlantic Cty; Pathologist: Betty Bacharach Home for Crippled Children, Longport; Pathologist, Jewish Seaside Home. Atlantic City; Formerly Major M. C., U. S. A. 428 pages, with 40 illustrations. Philadelphia. E. A. Davis Company, Publishers, 1937. Cloth, Price $4.00.

A good book on urinalysis, is an invaluable aid to the busy practitioner and a splendid adjunct to any hospital or surgeon's office and this volume fulfills all those requirements. The methods selected and demonstrated in each chapter are accurate, sufficiently delicate for all clinical purposes and which above all are feasible without too extensive or expensive equipment.

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NEXT MEETING LOUISVILLE

COUNTY SOCIETIES

Fifth District: The Fifth District Medical Association met at the Club House of the George T. Stagg Distillery Company on August 26th. Allen Donaldson of Carrollton, President of the Association presiding.

This was both a scientific and social session. The program included, first, a visit at the school of John P. Stewart at 4 p. m. It was undoubtedly a surprise to the many physicians and their wives to know that, right here at home, we have an institution for backward children that is not excelled by any in the United States. At present there are over 100 children in the school, some being at their homes on vacation. They are taught useful vocations, such as weaving, wood work, house keeping and many other things that may and will be of great assistance to them in the future. The grounds consisting of 500 acres are kept as beautiful as a lawn, the buildings are immaculate, the discipline is perfect and every child seemed as happy as could be. After the trip through the buildings and ground, a buffet luncheon served by our hosts Dr. and Mrs. Stewart, with their delightful daughters, was just in keeping with the beautiful surroundings and the efficiency with which the school is operated.

The society then adjourned to the George T. Stagg Distillery Company where dinner was served and a more delicious one I have not had the pleasure to attend.

Dr. Coleman, of Frankfort, delivered the address of welcome on behalf of the Franklin County Medical Society. Mrs. James Darnell gave the welcoming address on behalf of the Ladies Auxiliary Society of the Franklin County Medical Society.

Following the dinner the scientific program was taken up, beginning with a paper by A. C. McCarty, whose subject was "What Is New In Medicine." This subject was discussed by the following physicians: first, G. A. Hendon, who emphasized the importance of blood transfusions and all other intravenous injections, he impressed the fact that most untoward symptoms arising from intravenous medication are caused by the speed with which the injection is given rather than the toxicity caused by the fluid injection, also advising a percentage of Calcium Gluconate be given and included in the preparation given. The discussion then became rather general, especially as to the efficacy of Sulfanilamide. Dr. Irvin Abell reported good results in a majority of 40 cases, using small doses of 15 grams per day, with no severe reactions. Dr. Owsley Grant reported its use in about 125 cases in large doses 70 to 80 grams per day, with no especially bad reaction but with frequent recurrence, when used in Urinary tracts. E. L. Henderson reported three unusual cases of Streptococci infection, one case of general peritonitis making a complete recovery under Sulfanilamide, improvement beginning from the first day of its administration; also another case of infection where the patient had recurrent chills every other day with an additional rise in temperature of each chill until the temperature registered 114; beginning, then, with Sulfanilamide the patient immediately began recovery, continuing to complete recovery. R. Hays Davis spoke of allergic conditions which were mentioned in Dr. McCarty's paper and emphasized the fact that we should not always treat specifically the positive reaction but should take into consideration the nervous element in such cases, reporting a case of asthmatic symptoms that were seemingly caused by certain foods, after incorporating these foods with other general diet, without his knowledge this patient had no more symptoms. When told of this he never had another attack.

Wallace Frank's paper, "What's New In Surgery," was discussed and it was agreed that he had done some wonderful work, especially in Surgery of the Chest in Tuberculosis. Dr. Frank explained the new procedure in collapsing the affected lung, usually removing three ribs which collapses the lung down to about the 5th or 6th rib. Dr. Arnold rather condemned the procedure on account of the danger attached to it, but especially on account of the deformity that follows; saying that he believed he had rather be dead than half buried. Dr. Frank insisted that the deformity was hardly noticeable, and that after all, we usually do not go around without clothes. I believe the consensus of opinion was that most of us rather live regardless of the procedure it takes to attain that end. Dr. Frank also spoke of several other new procedures in Surgery which were discussed by some of the surgeons present.

The usual custom of election of officers, annually, was then proceeded with, with the result that the following officers were elected for the ensuing year:

E. E. Bickers, of Eminence, president; F. M. Travis, of Frankfort, first vice-president; Grace Snyder, of Frankfort, second vice-president. Owen Carroll, of New Castle, secretary.

There were present 65, including some of the doctors' wives, and I want to thank the Franklin County Medical Society for their cooperation and the hard work they did to make this meeting a great success.

J. B. Lukins, Councillor for the Fifth District, was in attendance at this meeting. He acted as master of ceremonies and cooperated in everything for the good of the society.

The physicians of the Fifth District appreciate Dr. Lukins' interest and his energy, expended in the promotion of a society which we hope will be the equal of any in the districts of the State.

OWEN CARROLL, Secretary.

Greenup: The Greenup County Medical Society met in regular session Friday, July 30th at 7:30 p. m. in the office of the Health Department. The meeting was called to order by the president, H. T. Morris. Minutes of the last meeting, April 21st, 1937, were read and approved. The following members were present: Doctors Johnson, Franz, Skaggs, W. S. Morris, T. T. Morris, Johnstone, Holbrook and John R. Pate, guests: Public Health Nurses, Misses Baldwin, Hayes, Howell and Nicklin, also Paul Holbrook, medical student

After disposal of regular business, Dr. John R. Pate, Acting Director of Greenup County Health Department, read a paper, entitled, "The Relationship of County Health Department to the Physicians and to the Laity." An interesting discussion and social hour followed.

Meeting adjourned 10:30 p. m.

JOHN R. PATE, Acting Secretary.

Grant: The Grant County Medical Society met at the regular time, August 18, 1937, with Dr. L. C. Roberts, of Jonesville. The following members were present: Drs. Kinsey, Ellis, C. M. Eckler, Blaine, Mann, C. A. Eckler, Davis, Roberts, K. S. McBee of Owenton, and P. E. Harper.

We had as our guest speaker Dr. Hayes Davis of Louisville. He was accompanied by his charming wife.

After reading the minutes and disposing of business in the usual manner, we entered into the subject for the evening. This was a most excellent lecture given by Dr. Hayes Davis on the all important subject, "Functional Diseases." Dr. Davis handled this subject in a masterly scholarly way. He showed a broad conception as well as a broad experience along this line. He showed how functional diseases comprise about one-third of our practice, in reality mere symptoms occurring in nervous individuals. He showed how allergy and nervousness closely related, appear together, also how mechanical defects, conditions of spine and flat-feet could cause those troubles. He stressed endocrine imbalence, metabolic defects and other emotional types.

He talked at length sighting numerous cases that he had had in his vast experience. He showed how pyscho-therapy cured lots of these cases. This is the treatment with which the Christian Scientist succeeds.

We want to again to thank Dr. Davis for the excellent lecture and invite him and his good wife to meet with us again in the near future.

At this hour, Mrs. Roberts invited us to her dining room, where refreshments were served, making the meeting one of the most enjoyable meetings we have had. Everyone felt it was good to be present on this occasion.

We want to thank Dr. and Mrs. Roberts for this splendid hospitality and we wish them many years of happiness and prosperity and hope they can attend our future meetings.

Dr. H. F. Plaut, of Cincinnati, Ohio, a graduate of University of Leipzig, Germany, will read a paper on "X-ray Diagnosis and Treatment," at our meeting September 15th.

P. E. HARPER, Secretary.

Letcher: The Letcher County Medical Society met at the Jenkins Club House, Tuesday night, September 21st, at 7:30 o'clock.

Dr. L. E. Smith, Louisville, was our guest speaker. His address on Tuberculosis illustrated with films (4 reels) was one of the finest we have ever heard. All present were most enthusiastic in having been at the meeting.

The doctors assembled were: J. E. Stanfill, president of the society; E. F. Sheppard, (Chief Surgeon, Jenkins Hospital); T. M. Radcliffe, T. M. Perry, J. E. Johnson, Owen Pigman, J. Y. Harper, J. Weaverling, A. L. Sparks, L. E. Smith, Louisville, (speaker); R. D. Collins.

After the speaking and pictures, we were given excellent refreshments by the Jenkins staff.

A most educational, as well as delightful time, was enjoyed by all.

R. DOW COLLINS, Secretary.

Jefferson: The regular fall meeting of the Jefferson County Medical Society began on September 20 at the City Hospital amphitheater. The usual business session began at 7:45 p. m., which was followed by the report of the delegates to the State meeting at Richmond.

The scientific program began promptly at 8:15 p. m. and was as follows:

The Value of Blood Sedimentation Tests, R. R. Elmore. Discussion opened by Will H. Allen.

Complete Inversion of Uterus, Case Report, J. Duffy Hancock. Discussion opened by Edward Speidel.

Completed Review of Hospital Deliveries, Nora Dean, R. F. Monroe, S. S. Gordon, and W. T. McConnell.

During the summer, the following members passed on:

Henry J. Farbach, M. D., July 6, 1937.
Wm. B. Doherty, M. D., July 25, 1937.
W. Hamilton Long, M. D., August 7, 1937.

NEWS ITEMS

Lawrence W. Nehil, M. D., announces the opening of his offices, 707 Heyburn Building, Louisville. Office Jackson 7622. If no answer call Jackson 6357. Diagnosis and Treatment of the Surgical Diseases of the Chest.

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BOOK REVIEW

CLINICAL HEART DISEASE: By Samuel A. Levine, M. D., F. A. C. P., Assistant Professor of Medicine, Harvard Medical School; Senior Associate in Medicine, Peter Bent Brigham Hospital, Boston; Consultant Cardiologist, Newton Hospital; Physician, New England Baptist Hospital, Boston. 445 pages with 97 illustrations. Philadelphia and London: W. B. Saunders Company, 1936. Cloth, $5.50 net.

The purpose of this book is to present in a simple form the important aspects of the diagnosis, prognosis and treatment of heart disease. It is meant to appeal to the general practitioner and in so far as the information or the points of view that it contains are applicable at the bedside and available to any intelligent physician. All the various types of heart disease are considered in a concise form. It is a splendid book for the specialist, student and general practitioner.

The authors specifically planned this work for the general practitioner as well as for the surgeon and specialist. Page after page is devoted to the treatment of diseases and conditions of everyday occurrence in general practice. For example there are 170 pages with 188 illustrations on Fractures and Dislocations; discussions of dysmenorrhea, sterility, menopausal conditions; the medical treatment of stasis and of peptic ulcer; the nonoperative treatment of neuritis, prostatic massage and so on through dozens and dozens of other common diseases and conditions, giving both medical therapy and operative technic.

SYNOPSIS OF GYNECOLOGY BASED ON THE TEXTBOOK DISEASES OF WOMEN. By Harry Sturgeon Crossen, M. D., F. A. C. S.

Professor Emeritus of Clinical Gynecology, Washington University School of Medicine; Gynecologist to the Barnes Hospital, St. Louis Maternity Hospital, and St. Luke's Hospital; Consulting Gynecologist to DePaul Hospital and the Jewish Hospital; and Fellow of the American Gynecological Society and of the Central Association of Obstetricians and Gynecologists and Robert James Crossen, M. D., Assistant Professor of Clinical Gynecology and Obtetrics, Washington, University School of Medicine; Assistant Gynecologist and Obstetrician to the Barnes Hospital and St. Luke's Maternity Hospital and to DePaul Hospital; Fellow of the Central Association of Obstetricians and Gynecologists. Second Edition, 247 pages. St. Louis, The C. V. Mosley Company 1937. Cloth, Price $3.00.

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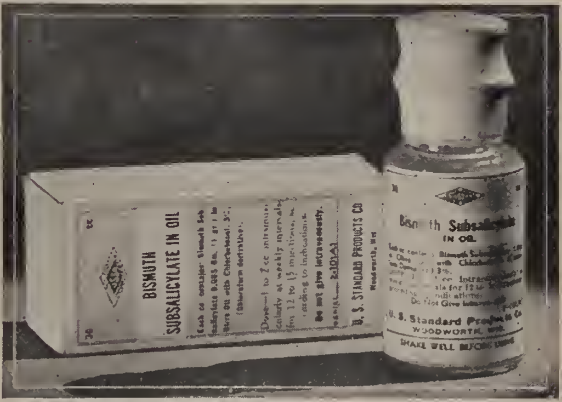
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“As to the kind of extra carbohydrate to be added, whether lactose or maltose, I believe dextri-maltose to be better in general in cases of fat indigestion infantile atrophy.”—*C. H. Dunn: The Hygienic and Medical Treatment of Children, Southworth Co., Troy, New York, 1917, V. 1, p. 418.*

In the treatment of decomposition, “The period of repair may be shortened by giving suitable additional food; the best, probably, being buttermilk to which carefully regulated proportions of dextrin and maltose preparations or malt soup are added.”—*E. Feer: Text-Book of Pediatrics, J. B. Lippincott Co., Phila., 1922, p. 284.*

In infantile atrophy, “The carbohydrate should be increased by gradual addition of dextrimaltose.

“Malt soup or dextrimaltose (Mead's) should be added in teaspoonful or more doses to each feeding until the point of carbohydrate tolerance is reached.”—*L. Fischer: Diseases of Infancy and Childhood, F. A. Davis Co., Phila., 1925, V. 1, p. 285.*

In the case of a premature infant, “Dried milk with water was given, which later was changed to whole milk, 14 ounces; water, seven ounces, and dextri-maltose No. 1, one and one-half ounces. Seven feedings of three ounces each every three hours was given. The above feeding was retained. The infant gained eight ounces at the end of the first week.”—*L. Fischer: Clinical notes in a series of premature infants, Arch. Pediat. 44:227-231, April, 1927.*

In the treatment of decomposition, “As a rule it is best to start with 2 to 2½ or 3 ounces of albumin milk to the pound weight in 24 hours; the sugar to be added is in the form of a maltose-dextrin mixture. One should never delay too long in adding this.”—*C. G. Grulee: Infant Feeding, W. B. Saunders Co., Philo., 1922, p. 265.*

With reference to hypotrophy, “In mild cases, the addition of dextrimaltose instead of cane or milk sugar may be sufficient to obtain a gain in weight.”—*C. Herrmon: The treatment of nutritional disorders in artificially-fed infants, New York M. J. 114:158-160, August, 1921.*

In athrepsia, “The carbohydrates are usually added in a slowly fermentable form, such as the maltose and dextrin compounds, which are usually started by the addition of four grams per kilogram (1/15 ounce per pound) and increased until eight grams or more per kilogram (¼ ounce per pound) of body weight are added.”—*J. H. Hess: Feeding and the Nutritional Disorders in Infancy and Childhood, F. A. Davis Co., Phila., 1928, p. 278.*

Concerning the treatment of marasmus, “When the stools have become smooth and salve-like, carbohydrate, in the form of dextrimaltose, may be gradually added up to the limit of tolerance.”—*L. W. Hill: Practical Infant Feeding, W. B. Saunders Co., Phila., 1922, p. 281.*

In the feeding of prematures, “As soon as there is a hesitation in the gain in weight, dextrimaltose No. 1 is substituted for the dextrose, in the same amount in the mixture, with almost invariably a gain in weight.”—*F. B. Jacobs: Relation of irradiated food substances and ergosterol versus cod liver oil in childhood nutrition, Pennsylvonia M. J. 35:164-167, Dec., 1931.*

“A spasmophilic baby on bottle feeding should receive a limited amount of milk—a pint, or at the most 24 ounces in the 24 hours—to which cereal gruel and some form of sugar is added, preferably one of the malt dextrin preparations; also the early addition of other foods than milk to the baby's diet.”—*M. Jampolis: Infantile spasmophilia, Interstate M. J. 25:652, Sept., 1918; abst. Arch. Pediat. 35:691, Nov., 1918.*

In cases of malnutrition and indigestion, “The appetite improves rapidly, and the stools soon become normal in appearance, if the sugars are intelligently prescribed. By this I refer to proper proportions of dextrin and maltose. When there is a tendency to looseness, I have used the preparation known as ‘dextri-maltose,’ for the extra carbohydrates; . . .”—*M. Ladd: Further experience with homogenized olive oil mixtures, Arch. Pediat., 33:501-512, July, 1916.*

In pyloric stenosis, “With low dextrose tolerance, a maltose dextrin preparation may be added in whole or in part. Even where the dextrose is well tolerated and gain in weight has ceased, impetus to the weight ontake may be given by the addition of a maltose dextrin preparation.”—*D. J. Levy: Pyloric stenosis and pylorospasm of infancy with especial reference to medicol treatment, J. Michigan St. M. S., 21:166-170, April, 1922.*

With reference to the treatment of diarrhea, “After several days, 2% to 3% of a maltose-dextrin preparation may be added (Dextri-Maltose). This is preferable to the easily fermentable lactose or cane sugar.”—*F. Lust: The Treatment of Children's Diseases, J. B. Lippincott Co., Phila., 1930, p. 145.*

In dyspepsia, “The carbohydrate must not be allowed to exceed 3 per cent. Dextri-maltose is the most suitable sugar.”

In the treatment of decomposition (atrophy, malnutrition, marasmus), “. . . when there has been obvious improvement, dextri-maltose is gradually increased from 3 to 5 per cent.”—*B. Myers: The nutritionol disturbances of infancy, Brit. M. J., 1:1079-1083, June 21, 1924.*

“The treatment of artificially fed children in the first of these groups consists in putting them on a low fat dietary, and giving them carbohydrate in the form of one of the less fermentable sugars—e.g., dextrimaltose.”—*L. G. Parsons: Wasting disorders of eorly infancy, Lancet, 1:687-694, April 5, 1924.*

In the milder cases of inanition, “Regulation of this disturbed organismal balance is obtained by the addition of carbohydrates, while fat and casein are reduced. For this purpose dextrimaltose and flour are better than the ordinary sugars, since they are more slowly absorbed and have greater efficacy in their powers of controlling the flora in the large intestine.”—*W. J. Pearson and W. G. Wyllie: Recent Advances in Diseoses of Children, P. Blakiston's Son & Co., Philo., 1930, p. 116.*

In intestinal intoxication, “I have had more experience with dried skimmed milk in which 2 to 5 per cent dextrimaltose, barley or rice flour has been cooked, and the mixture subsequently fermented by lactic acid bacilli or soured with lactic acid, than with any other food except protein milk.”—*G. F. Powers: A comprehensive plan of treatment for the so-called intestinal intoxication of infants, Am. J. Dis. Child., 32:232-257, August, 1926.*

Regarding the treatment of the marantic infant, “After the intolerance to sugar has been overcome a carbohydrate, preferably Dextri-maltose, may be added.”—*C. S. Raue: Diseases of Children, Boericke & Tafel, Phila., 1922, p. 427.*

In spasmophilia, “Dextri maltose is the best sugar to use in these cases, in the proportion of 6 to 8 per cent.”—*J. H. Reading, Jr.: Spasmophilia, Hahneman. Monthly, pp. 403-411, July, 1922.*

In the treatment of atrophy, “If the baby continues to improve, the next step in the treatment is to add to the milk one of the less fermentable carbohydrates, such as dextrimaltose; . . .”—*H. Thursfield and D. Paterson: Diseases of Children, William Wood & Co., 1929, p. 105.*

“I also find dextrin-maltose an excellent addition to albumin-milk when the first object of that food has been achieved and a gain in weight is desired; in this way I have succeeded in feeding albumin-milk far beyond the period usually advised, with highly gratifying results.” — *F. L. Wachenheim: Infant-Feeding; Its Principles and Practice, Lea & Febiger, Phila., 1915, p. 158.*

“Dextri-maltose has been substituted for lactose not infrequently, when the tolerance for the latter continues low.”—*J. H. West: Low fat, high starch evaporated milk feeding for the marasmic baby, Arch. Pediat. 48:189-193, Morch, 1931.*

“Malt sugar is indicated when others fail to produce a sufficient gain, or when malassimilation of fat is evident.”—*O. H. Wilson: The role of carbohydrates in infant feeding, Southern M. J. 11:177, March, 1918; abst. Arch. Pediat. 35:447, July, 1918.*

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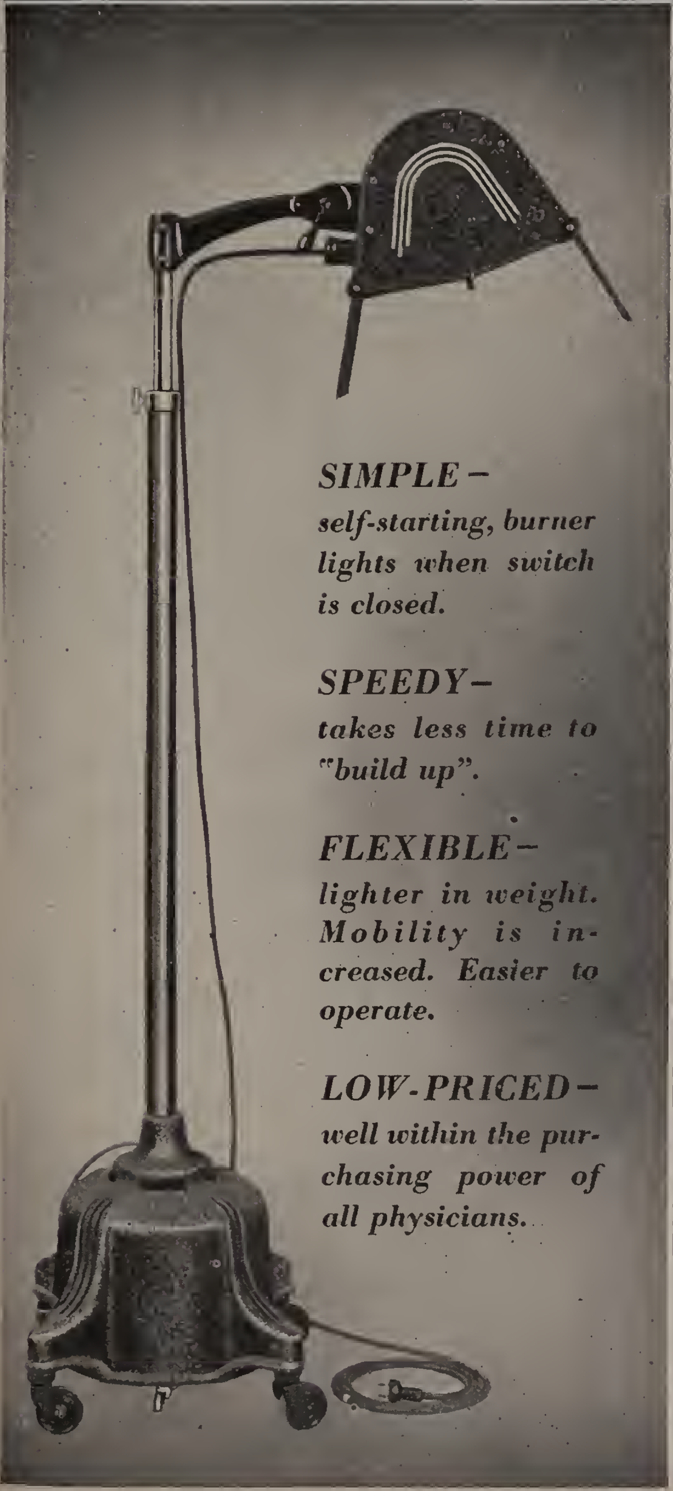

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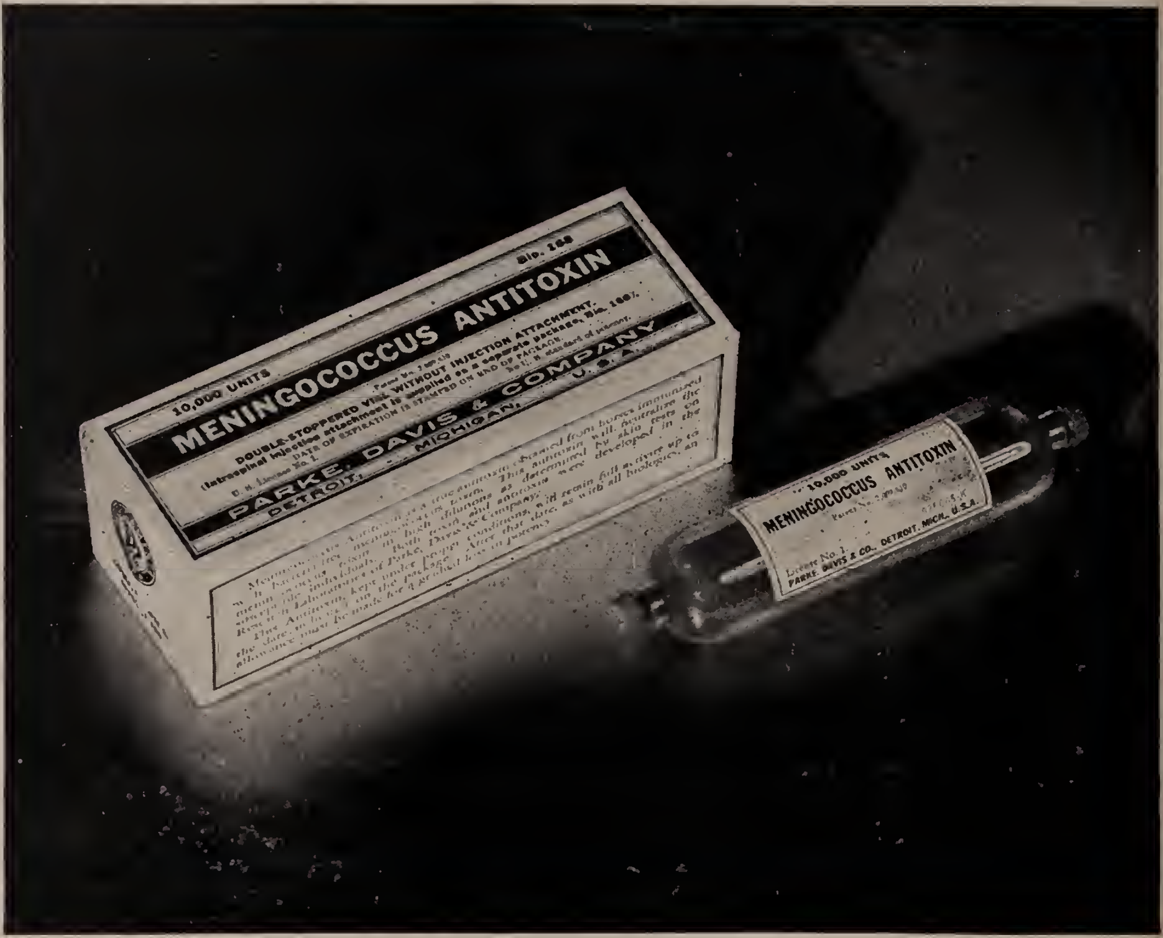

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(1) 1935. The Lancet 228-I, 71
(2) 1936. Am. J. Med. Sci., 191, 319
(3) 1935. Proc. Soc. Exper. Biol. & Med., 32, 1930
(4) 1933. J. Lab. & Clin. Med. 18, 484
(5) 1937. The Avitaminoses
Eddy and Dabldorff
William and Wilkins
Baltimore
(6) 1936. J. Nutr. 12, 405
1936. Ibid. 11,383
1935. Am. J. Pub. Health 25, 1340

This is the thirtieth in a series of monthly articles, which will summarize, for your convenience, the conclusions about canned foods which authorities in nutritional research have reached. We want to make this series valuable to you, and so we ask your help. Will you tell us on a post card addressed to the American Can Company, New York, N. Y., what phases of canned foods knowledge are of greatest interest to you? Your suggestions will determine the subject matter of future articles.

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CALENDAR OF COUNTY SOCIETY MEETINGS

COUNTY	SECRETARY	RESIDENCE	DATE
Adair	N. A. Mercer	Columbia	November 3
Allen	A. O. Miller	Petroleum	November 24
Anderson	J. B. Lyen	Lawrenceburg	November 1
Ballard	F. H. Russell	Wickliffe	November
Barren	Paul S. York	Glasgow	November 17
Bath	H. S. Gilmore	Owingsville	November 8
Bell	R. F. Porter	Middlesboro	November 12
Boone	R. E. Ryle	Walton	November 17
Bourbon	S. M. Bickman	Paris	November 18
Boyd	C. B. Daniels	Ashland	November 2
Boyle	Geo. M. McClure	Danville	November 16
Bracken-Pendleton	W. A. McKenney	Falmouth	November 25
Breathitt	Frank K. Sewell	Jackson	November 16
Breckenridge	J. E. Kincheloe	Hardinsburg	November
Bullitt	S. H. Ridgeway	Shepherdsville	November
Butler	G. E. Embry	Morgantown	November 3
Caldwell	W. L. Cash	Princeton	November 2
Calloway	Hugh L. Houston	Murray	November 4
Campbell-Kenton	C. A. Morris	Covington	November 4-18
Carlisle	J. F. Dunn	Arlington	November 2
Carroll	J. M. Ryan	Carrollton	November
Carter	W. S. Hawn	Grayson	November 9
Casey	William J. Sweeney	Liberty	November 25
Christian	Harvey B. Stone	Hopkinsville	November 16
Clark	R. E. Strode	Winchester	November 19
Clay	J. L. Anderson	Manchester	November
Clinton	S. F. Stephenson	Albany	November 20
Crittenden	C. G. Moreland	Marion	November 8
Cumberland	W. F. Owsley	Burkesville	November 3
Daviess	Alice W. Davis	Owensboro	November 9-23
Elliott	R. Eugene Wehr	Sandy Hook	November
Estill	Tracy Wallace	Irvine	November 10
Fayette	John Harvey	Lexington	November 9
Fleming		Flemingsburg	November 10
Floyd	J. G. Archer	Prestonsburg	November 24
Franklin	Grace R. Snyder	Frankfort	November 4
Fulton			November 10
Gallatin	J. M. Stallard	Sparta	November 18
Garrard	J. E. Edwards	Lancaster	November 18
Grant	Paul E. Harper	Dry Ridge	November 17
Graves	H. H. Hunt	Mayfield	November 2
Grayson			November
Green	S. J. Simmons	Greensburg	November 1
Greenup	D. C. Parmenter	Greenup	November 12
Hancock	F. M. Griffin	Hawesville	November 1
Hardin	D. E. McClure	Elizabethtown	November 11
Harlan	C. M. Blanton	Harlan	November 20
Harrison	W. B. Moore	Cynthiana	November 1
Hart	S. F. Richardson	Munfordville	November 2
Henderson	Walter O'Nan	Henderson	November 8-22
Henry	Owen Carroll	New Castle	November 29
Hickman		Clinton	November 4
Hopkins	David L. Salmon	Madisonville	November 4
Jackson			Nocember 6
Jefferson	Arthur T. Hurst	Louisville	November 1-15
Jessamine	J. A. Van Arsdall	Nicholasville	November 18
Johnson	P. B. Hall	Paintsville	November 13
Knott			November 27
Knox	T. B. Davis	Barbourville	November 26
Larue	D. W. Gaddie	Hodgenville	November
Laurel	Oscar D. Brock	London	November 10
Lawrence	L. S. Hayes	Louisa	November 15
Lee	W. D. McCollum	Beattyville	November 13
Leslie	John H. Kooser, Act. Sec'y	Hyden	November
Letcher	R. Dow Collins	Whitesburg	November 30
Lewis			November 15
Lincoln	Lewis J. Jones	Hustonville	November 19
Livingston	William C. Davis	Smithland	November
Logan	Walter Bryne, Jr.	Russellville	November 3
Lyon	H. H. Woodson	Eddyville	November 2
McCracken	Leon Higdon	Paducah	November 24
McCreary	R. M. Smith	Stearns	November 1
McLean	L. Hubert Medley	Livermore	November 11
Madison	H. G. Wells	Richmond	November 18
Marion	W. A. Risteen	Lebanon	November 16
Marshall	S. L. Henson	Benton	November 17
Mason	O. M. Goodloe	Maysville	November 10

COUNTY	SECRETARY	RESIDENCE	DATE
Meade	S. H. Stith	Brandenburg	November 25
Menifee	E. T. Riley	Frenchburg	November
Mercer	J. Tom Price	Harrodsburg	November 9
Metcalfe	E. S. Dunham	Edmonton	November
Monroe	George E. Bushong	Tompkinsville	November
Montgomery	D. H. Bush	Mount Sterling	November 9
Morgan			November
Muhlenberg	G. L. Simpson	Greenville	November 9
Nelson	R. H. Greenwell	Bardstown	November
Nicholas	T. P. Scott	Carlisle	November 15
Ohio	Oscar Allen	McHenry	November 3
Oldham	S. J. Smock	LaGrange	November 2
Owen	K. S. McBee	Owenton	November 4
Owsley		Booneville	November 1
Perry	D. D. Turner	Hazard	November 8
Pike	F. H. Hodges	Pikeville	November 1
Powell	I. W. Johnson	Stanton	November 1
Pulaski	M. C. Spradlin	Somerset	November 11
Robertson			November
Rockcastle	Lee Chestnut	Mount Vernon	November
Rowan	A. W. Adkins	Morehead	November 8
Russell	J. B. Scholl	Jabez	November 8
Scott	Carl M. Gambill, Acting Sec.	Georgetown	November 4
Shelby	A. D. Doak	Shelbyville	November 18
Simpson	N. C. Witt	Franklin	November 9
Spencer			
Taylor	M. M. Hall	Campbellsville	November 4
Todd	B. E. Boone, Jr.	Elkton	November 3
Trigg	H. L. Wallace	Cadiz	November 24
Trimble	J. J. Gerkins	Bedford	November
Union	D. C. Donan	Morganfield	November 24
Warren	Hal Neel	Bowling Green	November 10
Washington	J. H. Hopper	Willisburg	November 17
Wayne			November
Webster	C. M. Smith	Dixon	November 26
Whitley	C. A. Moss	Williamsburg	November 4
Wolfe	G. M. Center	Campton	November 1
Woodford	Charles F. Voigt	Midway	November 4

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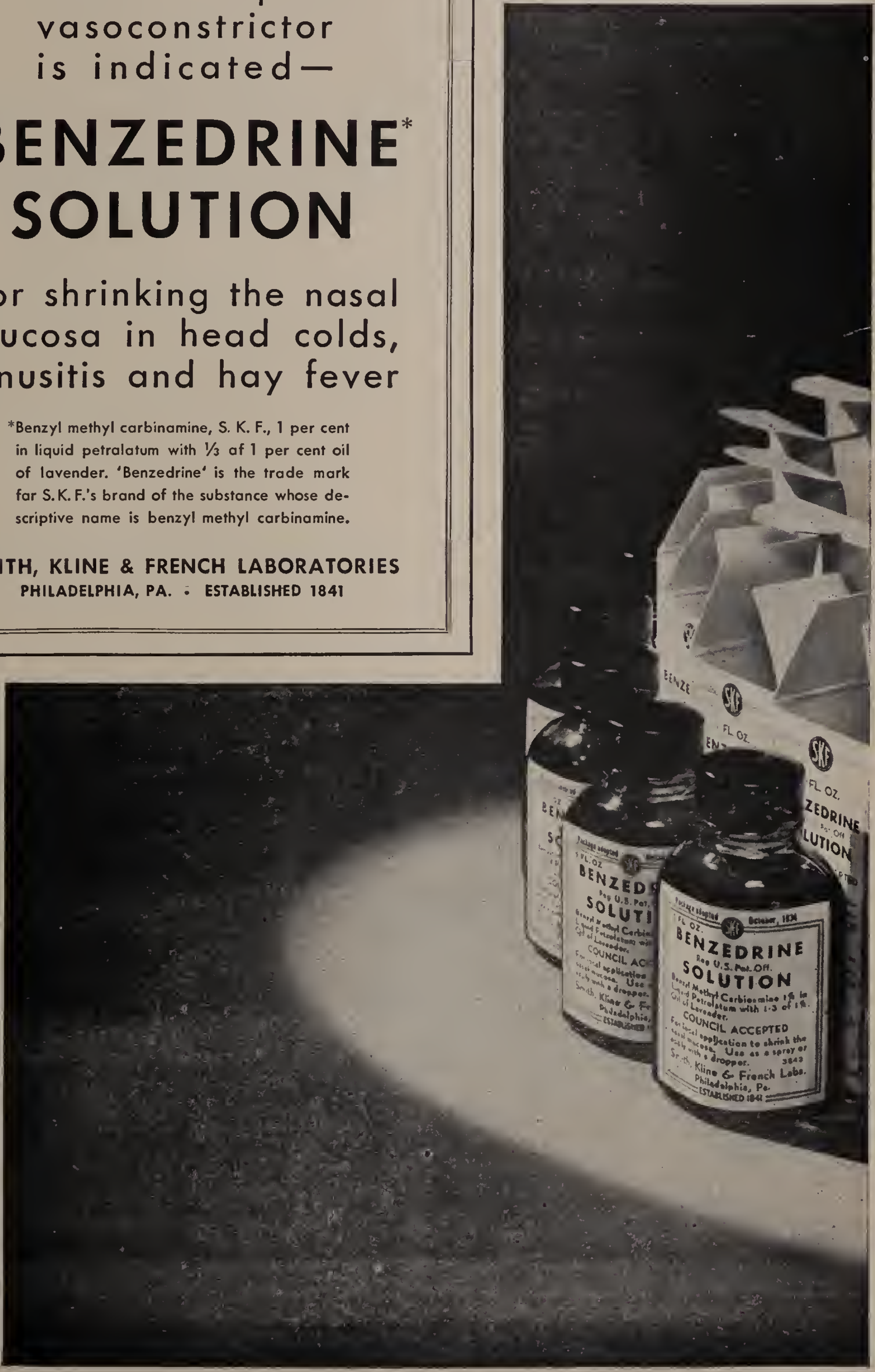
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SOUTHERN MEDICAL ASSOCIATION

31ST. ANNUAL MEETING *at* NEW ORLEANS *the* CRESCENT CITY

NOV. 30 - DEC. 1-2-3

THE WORTH OF MEDICAL MEETINGS to the physician is not the purpose of this announcement since the alert profession has come to recognize the value of keeping abreast through this channel. Rather, the purpose is to urge physicians to attend more medical meetings regularly

Of particular interest to the profession in the South are the annual meetings of the Southern Medical Association where clinical sessions, eighteen sections and an expanse of scientific and technical exhibits constitute a four day education in the later developments of scientific medicine.

Surely, the meeting this year in New Orleans will be one well chosen for the specialist or general practitioner alike; the program will afford keen interest to both in the wide variety of meetings and exhibits, all being housed under one roof, the Municipal Auditorium.

New Orleans, often called "America's Most Interesting City," is indeed a delightful setting for pleasure and relaxation when the program of the day is over.

ALL MEMBERS OF STATE AND COUNTY medical societies in the South are cordially invited to attend. And all members of state and county medical societies in the South should be and can be members of the Southern Medical Association. The annual dues of $4.00 include the Southern Medical Journal—the equal of any, better than many.

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†CALCIUM	0.15 GRAM	0.24 GRAM	0.39 GRAM
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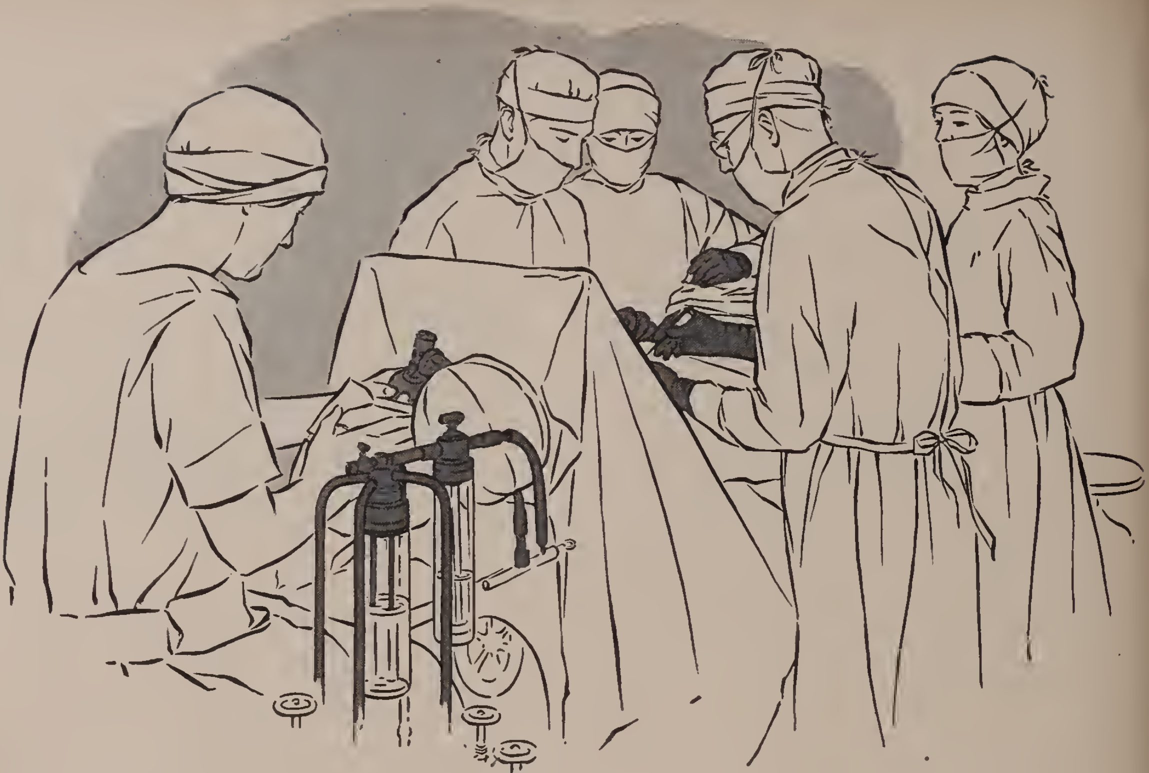

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KENTUCKY MEDICAL JOURNAL

BEING THE JOURNAL OF THE KENTUCKY STATE MEDICAL ASSOCIATION

Published Under the Auspices of the Council

VOL. 35, No. 11 BOWLING GREEN, KY. NOVEMBER, 1937

LEST WE FORGET

The real significance of the fight against tuberculosis is not fully appreciated by the majority of physicians. We have heard about the declining death rate from tuberculosis until we are disposed to conclude there is no longer any grave problem to be considered. We seem to take for granted that this tuberculosis death rate will continue to decline, and will at last reach that "irreducible minimum" we have dreamed of for many years.

Recent figures from our statisticians paint for us a different picture. There was a rise in the Nation's death rate for 1936, the number of deaths for the country as a whole totaling 70,907 (without the figures from New Hampshire). Twenty-seven of the 48 states participated in the rise. Kentucky reported 63 more deaths from tuberculosis in 1936 than in the preceding year.

The compilation by the National Tuberculosis Association of deaths and death rates of forty-six large American cities show that thirty-three had a definite increase in deaths from tuberculosis. One large city showed an increase of 54 per cent in its death rate from this cause.

Tuberculosis has, for many years, held its place as the leading cause of death in the active period of life, but this wide spread increase shown for 1936 gives us cause for serious consideration. Every physician in Kentucky should give serious thought to this problem, and should continue to think, and act, until tuberculosis is brought under control.

Tuberculosis has taken 88,185 lives in Kentucky during the preceding twenty-six years. More than 51,000 of these were taken in the active period of life. Think of the economic loss to our State. Think of the homes wrecked by the loss of bread winners. Think of the motherless children left behind. Think, too, of the seed of tuberculosis spread over our State by these unfortunates, who were taken by the disease, and then let every reader stop and consider why this dreadful situation has not long ago been remedied.

We are not helpless before the onslaught of tuberculosis. It is not a hopeless situation that confronts us. We can control the spread of the disease. We can, by routine measures and by the application of modern methods, find it early. We can cure tuberculosis when it is found early. We can take care of even the advanced cases in such way that they will not menace society by spreading infection to others.

To reach our goal in the fight against tuberculosis we must have a united medical profession, working harmoniously together, determined to apply modern methods in tuberculosis control to every patient, as well as to preschool and school children, parents and teachers.

In the words of Dr. H. E. Kleinschmidt, Medical Director of the National Tuberculosis Association:

"If the general practitioner will gear his efforts into the complex social machinery now existing, both he and the people will be the gainers. Success of the dream to free mankind of his ancient enemy depends now upon cooperation, persistence and courage."

Physicians should ever be aware of the fact that all tuberculosis is serious. They should not forget that all those now filling "consumptives" graves were at one time early cases. They should never be content until the source of every infection is located and treated. Isolation of spreaders should become a universal practice, and every contact of every spreader should be sought for and treated. Physicians and health workers have a definite obligation to those found ill: they also have an obligation to society, and should not be content until both obligations are discharged in the most creditable manner possible.

AN UNSOLVED PROBLEM IN MEDICINE TODAY

An answer to the question as to what constitutes the greatest medical problem today would depend, at least partly, upon the special interests of the physician interrogated. The surgeon would consider cancer a serious menace as indeed it is. The physician interested in the general aspect of public health would think probably first of syphilis. Others in special fields might mention some particular phase of their own work. However, there can be no argument if one analyzes the cause for death in the United States registration area.

Primarily, as is well known, heart disease in its various forms causes a death rate far in excess of other diseases. There has been an alarming increase (probably more apparent than real) in the deaths from cardiac diseases during recent years. At present, the death rate from heart disease is well over 230 per hundred thousand population. Alarming as this death rate is, if one particular type of heart disease accounts for more than seventy per cent of the fatalities, we are close to the correct answer to our question.

Several years ago a study of the incidence of the various types of heart disease encountered in Kentucky revealed that essential hypertension constituted more than seventy per cent. Similar studies in other parts of the country disclosed percentages largely in agreement with our investigation. If the death rate from all forms of heart disease is over 230 per hundred thousand population, and if more than seventy per cent of those dying have hypertensive heart disease, then the mortality rate for this type alone is over 161 per hundred thousand. In contrast to the hypertensive death rate, cancer shows slightly less than 100 per hundred thousand, while tuberculosis is about 60. It is thus manifest that hypertensive heart disease constitutes a problem as great as that of cancer and tuberculosis combined. Some may say that the cancer death rate is much higher than the figures actually indicate because, in order to spare the family, the death from cancer is not always so recorded. Granting this, it is also true that a great many hypertensives are not properly listed as such because the death certificates show merely that vague term "chronic myocarditis" or possibly, "cardio-renal diseases." Also, the terminal event in a hypertensive may be a cerebral accident and the cause of death is so stated without classifying the person properly and primarily as hypertensive.

Not only is the mortality from essential hypertension alarmingly great, but the etiology is, as yet, unknown. Hence, the condition with the highest death rate and the cause of which is unknown, would seem to offer the greatest problem in medicine today. As physicians then, we must investigate hypertensive heart disease from every angle in order to attempt to solve the enigma which it offers.

EMMET F. HORINE.

THE SOUTHERN MEDICAL ASSOCIATION

New Orleans, one of the oldest and most charming of the larger Southern cities, will be host to the Southern Medical Association at its approaching annual meeting, which will open November 30th and continue through December 3rd. Famous for its hospitality and its delightfully friendly atmosphere, the Crescent City is making elaborate preparations for the entertainment of its guests.

The medical profession of New Orleans in particular and of Louisiana in general is outstanding throughout the South. The medical schools of City and State are among the most prominent in the country, drawing their students from and sending their graduates to every section of the United States and to other countries, particularly the countries of Central and South America.

A feature of this meeting will be the celebration of twenty-five years of service by Mr. C. T. Loranz as Secretary-Manager of the Association.

The New Orleans meeting promises to be exceptionally well attended. Those expecting to be present would do well to make their hotel reservations early.

EXAMINATION OF THE AMERICAN BOARD OF OBSTETRICS AND GYNECOLOGY

The next examination (written and review of case histories) for Group B candidates will be held in various cities of the United States and Canada on Saturday, November 6, 1937, and Saturday, February 5, 1938. Application for admission to these examinations must be filed on an official application form in the office of the Secretary at least sixty days prior to these dates.

The general oral, clinical and pathological examinations for all candidates (Groups A and B) will be conducted by the entire Board, meeting in San Francisco, California, on June 13 and 14, 1938, immediately prior to the meeting of the American Medical Association.

Application for admission to Group A examinations must be on file in the Secretary's Office before April 1, 1938.

For further information and application blanks address Dr. Paul Titus, Secretary, 1015 Highland Building. Pittsburgh, Pa.

A CORRECTION

The leading editorial in the October number of the JOURNAL carried "Dr. J. D. Sory of Richmond" as one of the Vice-Presidents-Elect of the Kentucky State Medical Association. This was, of course, an error, which we deeply regret. The name should have been Dr. Robert Sory, Medical Officer-in-Charge, United States Public Health Service Trachoma Hospital, Richmond.

PRESIDENT'S ADDRESS

BLINDNESS AND ITS PREVENTION*

H. G. Reynolds, M. D.

Paducah.

We offer no apology for the subject we have chosen for discussion, though it must, of necessity, deal with facts which are largely elemental. To a mixed audience, such as this, it is our desire and our hope to say something, bring out some facts, which will cause the laity and members of the profession to join more generally and more heartily in the application of preventive medicine.

The Kentucky School for the Blind is an excellent institution, and through many years, has rendered, and is rendering, an excellent service to an afflicted people. Through all of its years of activity, it has kept pace with improvements in the teaching and physical training of the blind and abreast of the leading schools of similar type throughout the country. The great work which it is doing is appreciated by every citizen of Kentucky, although I doubt that there are many in this audience who have felt enough personal interest to visit the institution. I am informed that during the past year this school was filled practically to capacity, all of which brings us to the question: Shall we build an addition to the School for the Blind, or shall we seek to render such addition unnecessary by putting forth more vigorous efforts to prevent blindness?

This is the day of preventive medicine. There are over one hundred thousand blind people in this country. Seventy-two per cent of these cases, according to Harry Best, were preventable.

The world blindness carries with it a feeling of terror to all who hear the term. Down through the ages, those afflicted with it have demanded the sympathy and helpfulness of mankind.

Blindness in itself is a terrible affliction to contemplate, and in many instances, there is very little we can do about it, except to alleviate the suffering and hardships that go with it.

It is not my intention to talk to you about the blind, except to bring to your attention what it really means to be so afflicted, with no hope of ever seeing again. I would prefer to discuss with you the causes of blindness and their prevention.

Much has been done in industry and much is being done by the medical profession to prevent blindness, but a great deal more can be done. It is with the hope of stimulating your interest in preventing this most appalling affliction, as far as it is preventable, that I have chosen this subject.

Ophthalmology, in the past, has kept stride with the advances in surgery and the other branches of medicine. A lot, in the way of modern diagnosis and treatment, that is known in the specialty of ophthalmology, has never been conveyed to the average person in the way that it should be conveyed.

I have very little hope of telling you, in these short minutes, a great deal about the subject under discussion which you do not already know, but if I can succeed in inducing you to pass on some of this knowledge to some one else, thereby creating a chain of information, I think these small efforts will have been worthwhile.

Among the great discoveries in ophthalmology, which mean so much to the doctor and to the patient, in the way of discovering pathology and minute anatomy, is the slit-lamp. This, plainly speaking, permits microscopic examination of the human eye. By its use, we are able to discover any evidences of pathology in their incipiency, thereby preparing us for the early handling of such cases.

Cataracts, for example, can thus be diagnosed in their very earliest stages—earlier than is possible with the ophthalmoscope or other means that we had previous to this discovery. Early capsular anterior and posterior opacities come within our view in the use of the slit-lamp.

Dr. Luther Peter, along with many others, advises examination of the eyes, by a thoroughly trained ophthalmologist, every third year after the age of forty. By these examinations, we may be able to determine not only the incipient cataract, but many general diseases, before it is possible for them to be diagnosed by the internist.

Photography of the interior of the human eye has been practiced only during the last few years, but gives promise of being a great aid to the ophthalmologist in handling the diseases of the inside of the human eye. By its use, we are enabled to make definite records of the progress of certain diseases and keep them on file, along with the charts and histories of such cases. It is particularly valuable in teaching, bringing, as it does, before the student of ophthalmology a definite picture of a diseased condition which it has heretofore been possible to view only through the use of the ophthalmoscope. All these advancements in the science of ophthalmology will give you an idea of the trend and ultimate outcome in years to come.

The causes of blindness are many. Disease causes more blindness than does injury or accident. It is impossible, in the time at my disposal, to do more than discuss, briefly, the most important of these causes.

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*Read before the Kentucky State Medical Association, Richmond, September 15, 1937.

The medical profession is very grateful for the privilege of now speaking frankly about the so-called social diseases. We no longer hesitate to speak out or to use words which were, a few years ago, taboo in polite society. This very frankness of discussion, not only by the profession, but the laity as well, will go far towards eliminating many of the causes of disease.

Until the introduction, in 1884, by Crede of Leipsic, of the use of silver nitrate, one per cent solution, two drops in the eyes of the new born infant, blindness from gonorrheal ophthalmia neonatorum constituted thirty per cent of the cases admitted to our institution. Since the introduction of this method of prophylaxis, its use has become almost universal. The legislative bodies of nearly all our various States, as well as those of other countries, have enacted laws penalizing any medical attendant who fails to use this precaution at the birth of a baby. As a result, the percentage of blindness from ophthalmia neonatorum has been very greatly reduced in the last few years. The latest statistics available are that only seven per cent of the inmates of the blind institutions of this country today are there from this cause.

I feel that I should stress, at this point, the importance of the proper administration of this simple measure. We doctors are familiar with the difficulties of handling a little baby. We ophthalmologists realize the extreme difficulty of getting a new-born infant's eyes open. It takes a skillful person to handle the situation. The baby should be wrapped either in a blanket or sheet and held firmly. The skin outside the eye should be wiped off with cotton, saturated with boric acid solution, and the eyes opened with the thumb and forefinger; and be sure that the solution gets into the eye.

To the doctor, I would say do this yourself. It cannot be trusted to the practical nurse or, in many instances, to the registered nurse. About seventy per cent of all cases of ophthalmia neonatorum are due to a specific germ. There is usually some little redness which passes away in a day or two and leaves no untoward after-effect. As is the case in the modern handling of several of our infectious diseases, if this measure were properly instituted at the birth of every infant, the small percentage of blindness we now have from this cause would soon be wiped out entirely. Quoting from an article in the Journal of Ophthalmology:

"Eighteen per cent of the enrollment of the Perkins Institute in 1888 was ascribed to ophthalmia neonatorum. The results of public education and control of ophthalmia neonatorum have brought about a decline of blindness from this cause in all civilized countries. In 1930, at the Perkins Institute, 0.5 per cent of the enrollment was ascribed to this cause. A recent survey of the causes of blindness among pupils at Perkins Institute, has revealed that heredity is the greatest single cause of blindness at that institution. The survey was made jointly by the Perkins Institute and the Howe Laboratory of Ophthalmology and the findings are charted graphically and exhibited at the Massachusetts Eye and Ear Infirmary.

The two chief hereditary causes of blindness were found to be atrophy of the optic nerve and congenital cataract, factors which usually behave as mendelian dominants. If persons suffering from these defects could be restrained from reproduction, much blindness could be eliminated in a single generation."

Further under the head of preventable eye disease may be classed syphilis. While this disease is not so dramatically destructive of the human eye as gonorrhea, it carries with it, as we doctors know, other destruction of the mind and body and contributes greatly to the population of our blind schools, while, at the same time, adding a large percentage to the inmates of the insane institutions of this country.

We have the means at hand today, if properly used, to do away with hereditary syphilis and protect the innocent victim from contracting this disease. The United States Public Health Service and the State Health Departments of the various states are flooding the country with knowledge and information as to approved methods for combating this disease of the ages. The further discussion of such a subject, however, does not come within the province of this address. Suffice to say, that the vigorous treatment of the syphilitic mother before the fifth month, by the family physician, will prevent hereditary syphilis in the child.

Optic nerve atrophy, interstitial keratitis, congenital cataract, uveal inflammation, in many cases, and other pathological conditions in the interior of the eye result from inherited syphilis. While we make an effort to bring about some improvement by treatment, the mark has been left on the little patient, from which it will never recover. All of which need never have occurred, as the control of hereditary syphilis, if properly handled, can be made just as certain as the control of diphtheria.

The discussion of the causes of blindness would be very incomplete, indeed, did we not include trachoma. This is a particularly appropriate subject in this section of the country, where so many of our people have been afflicted, and because its consequences are so destructive.

Fortunately, the efforts of the pioneers in trachoma work in Kentucky have brought about a great change. Today the disease in this State seems well under control and bids fair to be eliminated as a cause of blindness. This is a matter of great satisfaction to the doctors in Kentucky, who point with pride to the accomplishments of one of our number in the control of this disease in the mountains contiguous to our present place of meeting.

Dr. J. A. Stucky's work in trachoma, according to Dr. Edward Jackson, brought the attention of the National Government to this problem, and it is very likely that, through his efforts, the way was opened to treatment and control of this disease, not only in our State, but in other States throughout the West and South.

While we know very little about the cause of trachoma, we feel sure that diet and hygiene have played a very important part in its suppression.

Twenty-five or thirty years ago, many patients visited my office with the sequellae or complications of trachoma, requiring plastic surgery of the lids; today it is a most unusual thing to have a patient of this type. Southern Illinois, Southern Indiana, Southwestern Kentucky and some portions of Missouri contributed to our clientele at that time.

The prohibition of any child entering our public schools with this disease and its active treatment in its early stage, along with other measures, has brought about these gratifying results. Trachoma is one of the most painfully destructive diseases to which the human eye is subjected.

True, its invasion is from the outside and many patients escape blindness, but to see some of these poor people go through life with scarred lids and scarred corneas, makes us proud that our National Government has prohibited any foreigner with this disease from landing in this country. Such people are sent back to the countries from which they came, at the expense of the steamship companies that bring them.

I want to give credit to one of my old teachers and friends, Dr. William Cheatham, who, in 1902, called attention to the prevalence of trachoma in Kentucky, making the statement in a medical meeting that forty-seven per cent of the then inmates of the Kentucky School for the Blind were in the institution because of trachoma. It has been recently reported to me that only one out of one hundred seventy-four inmates is here now because of trachoma.

I could well devote all my allotted time to trachoma alone, for it is not only an intensely interesting subject, but is so vitally important to people in this part of the State. Within a stone's throw, we have one of our hospitals which has done wonderful work in recent years to control this disease. We look back with great reverence and respect on such men as Stucky and his assistants, who traveled by mule back and farm wagons, over great areas of this mountain country, to lend assistance and, in many instances, to give comfort to the sufferers from this disease.

I happened to be present at the meeting of the American Medical Association in Washington a few years ago, when the great Noguchi announced to the assembled medical profession that he had discovered what he thought was the cause of trachoma. It was the hope of the entire assemblage that he was correct. Unfortunately, as has happened many times in connection with the search for the cause of this dreadful disease, time proved him to be in error.

It may be well to quote a few statistics concerning trachoma in Kentucky and to pay a little more attention to it than we would to other causes of eye disease. C. E. Rice, Assistant Surgeon of the United States Public Health Service, reported, at the time of his survey, that 8,444 cases were seen in Kentucky, that 463 pairs of eyes had become entirely blinded and that 840 individuals had had vision reduced to 20-200 or less from corneal damage. The present status of this disease in our State is very gratifying and, while I have no direct knowledge, I feel satisfied that trachoma is not only under control, but on the wane in Kentucky. As evidence of this, in 1915, in Kentucky, there were 17 persons out of every thousand population with trachoma; in 1930, this had dropped to seven to every thousand.

Quoting further from Dr. Rice: "It will require educational efforts in the prevention of this disease more than treatment. However, treatment will arrest the disease and prevent much suffering by the individual."

Of the many diseases of the eye which frequently produce blindness, there is none that is so discouraging as glaucoma. As in the case of cataract, we have never been able to find any satisfactory cause for its existence. Glaucoma is of three types: Acute, subacute and chronic. Heredity, there is little doubt, plays a part in this disease, as it does in cataract.

Acute glaucoma requires of the ophthalmologist immediate and emergency handling. Frequently, without any warning, nausea and vomiting, intense neuralgia, pain almost unbelievable in character, strike the patient. The family physician is naturally the one called in such cases. Sometimes, though not as frequently as formerly, he is misled in his diagnosis by the symptoms, and much valuable time is lost in searching for the cause.

In some instances, medication, such as atropine has been instilled, which, of course, is fatal to the vision. An acute case requires immediate operation, unless we are successful in controlling it with eserine or some of the newer preparations, such as glaucosan. Acute attacks of glaucoma have been brought about by the use of atropine. Of course this could have been avoided by taking the tension before the instillation of such drops.

"The glaucoma patient who seeks the aid of an ophthalmologist early, carries out the doctor's orders faithfully and remains under medical supervision permanently, has a good chance of preserving sight."

The importance of chronic glaucoma far exceeds, in my opinion, that of the acute type. Because of its insidiousness and its slow progress, early discovering of the disease makes it possible to preserve more vision. Frequently, there are no symptoms in the early stages of chronic glaucoma. Frequent change of glasses, possibly, is one of the earliest of the symptoms, until the tension produces halos around the light. Slight nausea and a feeling on the part of the patient, that glasses are not properly fitted may lead to an early diagnosis.

We have felt for many years that the prescribing of glasses, the examination of eyes required in refraction, should be in the hands of trained ophthalmologists. It is too much to expect the spectacle man, or the untrained physician, to discover this disease in its incipiency, when there is still a possibility of giving the patient some relief and maintaining what vision he has throughout life.

Quoting Dr. Edward Jackson, Denver: "The treating of glaucoma is certainly more an effort to prevent threatened hopeless blindness than to give relief from immediate pain." Laquer held his own glaucoma in check for five years by the use of eserine and then went to Horner for the operations that prevented blindness and gave him thirty years of useful professional life.

I want to place emphasis on chronic glaucoma. When you once have it, you will always have it. There is never a time, after a definite diagnosis when you should not be under the care of and under the treatment of an ophthalmologist. It behooves one who is afflicted with this disease to adhere most strictly to the instructions given him by his eye physician. Many cases of chronic glaucoma have been carried along for years under the control of medication, without any perceptible loss of vision or contraction of the fields.

I have been impressed, in recent years, with the idea that we have more glaucoma today than we did several years ago. I mean glaucoma of the chronic type. However, one must remember that the people generally are better informed and seek treatment more readily than formerly.

The ophthalmologist first attempts to control chronic glaucoma with drops. The fact that you can see seemingly as well as you have ever seen by central vision does not mean that you are not losing ground. The ophthalmologist not only watches your visual field, centrally and through the side, but he keeps track of the tension of the eyeballs, so as to check on the control of the medication.

Should medicine fail to control this tension, he resorts to a more or less simple operation which, in many instances, gives relief, but by no means is an absolute cure. As stated before, it can never be said that glaucoma is absolutely cured, that you will be able to bid your ophthalmologist goodbye. With this disease, that is impossible. You must have his constant care.

The word cataract is so poorly understood by the average layman that it may be well, as this is a mixed audience, to define it. A cataract is an opacity of the crystalline lens It may occur in infancy or extreme old age. In a patient with cataract, particularly before the age of forty, we should bear in mind that there is a possibility of this being secondary to an inflammatory condition or a general systemic disturbance and, even after this age, we must consider the same etiological factors before diagnosing a senile type.

As to the control or prevention of cataract, I might quote Dr. Luther Peter, who asks himself the question: "Can cataract be arrested?" He answers the question in this way: That much can be done to arrest the development of cataract. That by controlling foci of infection and constitutional disease, we have taken one step to prevent the elaboration of poisons and toxins. He claims as a further step, that local methods of treatment tend to improve the general nutrition of the eye. As another step, he states that the frequent and skillful refraction of the eyes, has a tendency to lessen the formation of cataract. This along with good illumination, he holds, emphasizes the importance of early treatment in the disease.

Naturally, the attention suggested by Dr.

Peter is well worthwhile and is practiced, in so far as is possible, by the modern doctor, but that we are able to control the development of a cataract by such measures, is certainly a debatable question. We can, however, retard the development.

Contrary to the view formerly held that a senile cataract should be well mature, that a patient should be able to count fingers at a few feet, we now follow the indications of an individual's vocation. The mechanic will require surgery much sooner than the watchman, and, everything else being equal, by means of some of our newer operations, we are enabled to do this surgery and have the patient back to his work without the long tedious wait to which we formerly resorted.

A patient with senile cataract today, in my opinion, has a better chance for a good result following an operation in the hands of the average ophthalmologist than in former years. In other words, the progress in cataract surgery has developed very greatly in this country. This can be very definitely attributed to an increased knowledge in diagnosis and more skill in cataract surgery.

Industrial eye injuries produce about fifteen per cent of the blindness in this country. Every ophthalmologist has, in his routine practice, the care and treatment of eye injuries of one sort or another. Most of these injuries are trivial and require very little care, but the most trivial can produce blindness or partial blindness when least expected. Therefore, it is our belief that the great majority of these cases should be in the hands of a trained ophthalmologist.

The history of such injuries is a very important part of their routine care, depending on the extent of the injury. The minor ones require, on dismissal, at least the vision of both eyes and the certainty, on the part of the doctor, that there has been no permanent loss. Severe cases, as stated above, require most careful and painstaking history.

Cases of penetrating injury to the eyeball, if the foreign body is capable of being X-rayed, should by all means be sent to the X-ray laboratory. Our methods of localizing such penetrating foreign bodies is so exact, that we are able to determine whether the foreign body has penetrated the eyeball or whether it is retained in the globe. Many such eyes have been saved by careful handling, the use of the magnet and therapeutic measures that we have at our disposal today.

It is our belief that all employers in industrial plants, particularly where there is any degree of hazard, should have every applicant thoroughly examined by a trained ophthalmologist before employment. This precaution is not only a protection to the employer, but it safeguards the employee as well.

The National Safety Code lays down specifications for goggles for the use of employees in hazardous occupations. In the experience of twenty-five years, I have never had a patient, who persistently wore his goggles, with an eye injury of any consequence. The tools that are used in industrial plants are sometimes responsible for chips flying from hammers and chisels and striking the eye with great force. The inspection of such tools would go a long way toward safeguarding the employees in this respect.

Fortunately, in any industry, copper, brass, glass, stone and mortar do not frequently enter into the picture of penetrating foreign bodies. Thousands of dollars have been paid out by insurance companies, when, without a doubt, a preexisting disease or scar from previous injury has been taken advantage of, to magnify the claim for compensation.

Myopia, or nearsightedness, is rarely ever present at birth, it is essentially a diseased process in which the supporting coats of the eye lack their normal resistance and allow the length of the eyeball to go beyond its normal limits.

The myope deserves and receives more attention from the ophthalmologist than does the hyperope, or farsighted person. Myopia may be progressive, it may be malignant or it may be stationary. There is a type we call school myopia. sometimes requiring a change of glasses in six months or a year. This type of myopia has created quite a discussion throughout the country.

The oldest practice and the one advocated by Dr. Jackson of Denver and others is that these patients be given full correction, that reading and the use of their eyes for close work be restricted, that they be forced out of doors for exercise, that their physical condition be looked after most methodically and, in many cases, that they be kept out of school.

The other side takes the position that school work and close work do not aggravate the condition, that the child be permitted to study as he desires and that while the refraction should be looked after, it does not control the progress of the myopia.

I think it is well to bear in mind that a myopic eye does exact from us a more careful attention and more frequent refraction than does the hyperopic eye.

From the age of about three on, the problem of cross eyes confronts us and early attention is always necessary. The possibility that the child will outgrow the defect is so slight that it should never be considered, because the percentage that do correct themselves is very small. Even when it seems that the deviation is decreasing, though still existing, even to a few degrees, near blindness from non-use is usually the result.

Should a child present himself with a deviating eye, we can determine the prognosis by the instillation of a 1 per cent atropine solution, three times a day for three days. If the eye straightens at the end of three days, we know that we are dealing with a strabismus that probably may be corrected by the prescribing of lenses, supplemented by muscle exercises. If the deviation persists after three days, operative procedure is indicated. This is the only method of correcting the trouble.

At the beginning of the school year, symptoms, such as headaches, are most common with children. A refractive error is usually the cause of the complaint, although we must not forget that the etiology may require the opinion of an otolaryngologist or even a neuro-surgeon.

Children should be cautioned regarding their reading. They should be permitted to read only when sitting erect and with the proper illumination. Reading in poorly lighted corners or when lying down in bed is dangerous and undoubtedly predisposes to myopia. One should be particularly cautious in permitting children to read during an illness. Because of the general asthenia, they are more prone to develop myopia. Most of the ocular symptoms during school days are due to errors of refraction or weak accommodation. We frequently examine children who are labeled as backward or not particularly interested in their school work. They have no physical complaint, yet we often find that defective vision is the cause of it all.

In recent years, there has been remarkable advance, as the result of scientific research, in our knowledge of ocular diseases. We have attained a greater knowledge as to the nutrition of the eye, which is fundamentally important in the discovery of the cause of such diseased conditions as glaucoma, cataract, etc.

Quoting Dr. Holper: "A lack of vitamin 'A' in the diet will produce certain eye changes and it has been proven that the retina as well as the liver stores vitamin 'A'. Since a new-born infant contains very little vitamin 'A', it is essential that the mother be given a generous supply of this vitamin during the prenatal and lactation periods. The more common eye disorders due to an insufficiency in vitamin 'A' are nyctalopia, or night blindness, xerophthalmia, xerosis and keratomalacia, all of which have to do with changes of the epithelial covering of the eyeball and lining of the para-ocular gland."

Much has been learned respecting the control of bacterial infection in the muscular and elastic tissues of the iris which may block the pupil and thus lessen vision and cause repeated attacks of inflammation. These infections, traced to the teeth, tonsils or sinuses and occasionally to the lungs from tuberculosis, are fairly readily controlled, if recognized early.

It must be admitted, however, that the utilitarian applications of some of these researches have been rather disappointing, but the future is full of hope.

SUMMARY

1. There are over one hundred thousand blind people in the United States.

2. According to Dr. Edward Jackson, there are one hundred times as many who, if we did not have our present means of prevention and treatment, and they were not utilized, would be on their way to partial blindness.

3. Seventy-two per cent of the blindness in this country is preventable.

4. If we use the knowledge and means at our disposal, preventable blindness can be reduced to an irreducible minimum.

5. The hope that inspired this simple talk is born of a desire to elicit your interest and secure your aid in educating the people of Kentucky in further reducing the preventable causes of blindness.

Otogenic Meningitis.—Of Bjork's twenty-nine cases of otogenic meningitis in acute otitis in which treatment was administered from 1930 to 1935, sixteen represented primary and thirteen secondary meningitis. Of the former, thirteen were tympanogenic (four fatal) and three labyrinthogenic (two fatal). Of the latter, eleven resulted from sinus thrombus (six fatal) and two from brain abscess (both fatal). Two of the fourteen deaths were caused by other complications, and the mortality from meningitis was thus 44.4 per cent. The nine cases in which there were bacteria (streptococci) in the cerebrospinal fluid were all fatal. The author concludes that meningitis in connection with acute otitis originates equally often from primary and from secondary infections. The great majority of cases are due to a tympanogenic or a sinusogenic infection. Disturbances in development play an important part in the progression of the disorder to the meninges; in twenty-six of his twenty-nine cases there was an abnormally wide or an obstructed pneumatization.

ORATION IN SURGERY

SUBORDINATE OBLIGATIONS OF THE SURGEON*

JAMES A. RYAN, M. D.

Covington.

The fact that the primary concern of the surgeon in his obligation to the patient is so well established it needs no emphasis. In fulfilling this obligation to the patient many other problems are encountered in the average every day work of the surgeon. Careful and conscientious attention to these secondary or subordinate problems and obligations is an integral part of the surgeon's duty to his patient.

It is very likely that all young surgeons when entering their chosen field have very definite ideals and ambitions. They all undoubtedly have visions or perhaps only dreams of doing something extraordinary, something brilliantly original in Surgery. They soon find that the heights are reached by only a comparatively few; those master surgeons, who by reason of their knowledge, skill and experience become our leaders and our teachers.

Another phase of surgical ambition is to do ordinary things extraordinarily well. To achieve continued success in this ambition one must be prepared to be uninterruptedly and uncommonly concerned about common things. Unquestionably the pursuit of such ambition will lead to success: firstly, to the personal glory of accomplishment, and secondly, to the pecuniary reward for effort.

Surgeons are human beings and are subject to all the attributes and frailties of human nature. Among these are ambition, greed, suspicion and jealousy, and in the struggle, ambition is not always the victor.

Despite training, experience and environment, human nature asserts herself and the great majority of surgeons fall into the class of these who do ordinary things moderately well.

Then, there is the mediocre surgeon, who, if he ever had any ambition, has lost it. He is like the dub golfer. He occasionally makes a good shot, but usually he just muddles along, doing some good and some useless and meddlesome surgery. He never learns that it takes more sense and more judgment not to do things than it does to do them.

No surgeon is self sufficient. To do good work he must cooperate with every agency both near and remote that enters into the care of the sick. He must be just and fair to his colleagues and he must be exceedingly careful not to assume a critical attitude toward them. To err is human and no one is so exalted that he is infallible.

To give a patient the best possible service there must be a close cooperation and correlation of effort on the part of both the attending physician or surgeon and the hospital. The success and reputation of a physician or surgeon, particularly those who are closely allied with the hospital, and who occupy definite staff positions, are directly dependent on the type of service rendered by the hospital. On the other hand, the standing and reputation of any hospital is wholly governed by the kind of doctors who are permitted to utilize its equipment and the various facilities for the care of the sick.

Any hospital that allows poorly prepared, inefficient and unethical men to perform difficult major operations within its borders, will, of necessity, attract such men, and its standards will be lowered. Unfortunately, the capable conscientious surgeon will suffer by comparison. Ultimately the entire medical profession in any community where these conditions obtain, will all be tarred by the same feather and, in so far as the general public is concerned, they will all be put on the same level.

Thus, the surgeon probably more than any other member of the staff does have a very definite obligation to the hospital. By his advise and precept and by his example to the other members of the staff, particularly to the younger surgeons, he can do much to raise the standards of his own hospital. He can even help by his cooperation to relieve or remedy undesirable conditions in other hospitals in his own city.

In a certain community there were three well equipped, well staffed general hospitals. Competition was keen and in its struggle for existence one of these hospitals allowed doctors with no surgical training and little surgical ability to perform major operations within its confines. As a natural consequence, much useless and unnecessary surgery was done and the trusting and unsuspecting patient was the sufferer. The management, either would not or could not cooperate with the hospital staff in its effort to eradicate this undesirable condition.

The skirts of the other two hospitals were not entirely clean, for violations of decent surgical practice did occasionally occur in them.

To try and remedy these conditions, representatives from each of the three hospital staffs got together to discuss ways and means of coping with this situation.

As a result of this discussion, a committee of three from each of the three hospital staffs formed themselves into an Inter-hospital Committee of Nine. The president of the staff of each hospital together with two other members appointed by him constituted this committee.

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*Read before the Kentucky State Medical Association, Richmond, September 13, 14, 15, 16, 1937.

This committee interviewed the managements of the three hospitals and after stating their aims and objects secured the unqualified approval of all three managements and their pledge to cooperate to the fullest.

A minimum standard to practice surgery in these hospitals was then set up. Application blanks incorporating this information were sent to every man who did any surgery of any kind, and no man could schedule an operation until the blank was filled in and returned. These applications were reviewed by this entire Committee of Nine and a list of those eligible to practice surgery was posted in each of the three hospitals. With the cooperation of all the hospitals an unsavory state of affairs was remedied, and the entire medical profession in the community is on a better and a higher plane.

The surgeon must remember that the brunt of the responsibility for the care of the patient rests on him, not on the hospital. If he be given special privileges in the hospital, then he owes the hospital a special duty. In addition to his general obligation to the hospital as a whole, he owes a duty to every major and minor agency that is concerned in the care of the patient. He must have a thorough knowledge of asepsis and antisepsis, and of the principles and practices of sterilization. He must be conversant with all the stages of operating room technique.

He must, by his teaching and example, thoroughly impress upon the student nurses the necessity for absolute surgical cleanliness, both in the operating room, and at the bedside. He must also cheerfully assume his share of the duty of teaching the student nurses in the lecture room.

A young doctor's chief object in accepting an internship is to learn. For this opportunity he is willing to serve, and the more he learns the better he will serve. He must not be allowed to drift haphazardly through his service doing things that he is not capable of doing. He must have the kindly, considerate guidance of the staff man in the examining room, at the bedside and in the operating room. When he is wrong, it is the duty of the staff to explain to him why he is wrong. When he is right, he should be commended.

A friendly, kindly relationship between surgeon and intern will be mutually helpful. The surgeon's experience, his judgment and above all his conscientiousness will contribute to the education of the intern. On the other hand, the intern's freshness, his enthusiasm, and his modern technical knowledge, will tend to spur the surgeon to more study and to better work.

It is inspiring to note the improvement year after year in the newly graduated doctors who come to our hospitals to serve their Internships. It used to be that some interns were good and some not so good. In recent years all interns in approved hospitals are good. They have to be good to graduate. Medical education in class "A" colleges means the survival of the fittest. The majority of the hospitals, other than those connected with teaching centers, can only afford a one year service for interns, with rotating services covering all the various departments of the hospital. This service can only fill in and round out the information acquired in medical college. It cannot afford more than a meager experience in any of the specialties. In other words, no intern can be a specialist in anything after a one year hospital service.

It is the surgeon's duty to impress upon interns the necessity and value of physical examination and of history taking before operation. A history taken after an operation is of relatively little value, certainly it is of no value to the intern.

Interns should be encouraged to follow the surgical cases, in which they are interested, to the operating room. Especially should they do so in the cases in which they have taken histories, made physical examination and recorded their diagnoses or impressions. They should see and, when practical, be made to feel the pathological organ or tissue in situ. In this way physical findings prior to operation and pathological findings at operation may be correlated. The significance of the history and of the signs and symptoms elicitated at the intern's physical examination will thus become more understandable to them.

There should be an harmonious cooperation between the surgeon and the roentgenologist. Both are mutually concerned in arriving at a proper diagnosis, for, upon this diagnosis depends the subsequent treatment and care of the patient and his future welfare.

The surgeon should follow his pathological specimens to the laboratory. By this practice he can add immeasurably to his knowledge of surgical pathology. The more profound a knowledge of surgical pathology he has the better surgeon he will be.

He can also frequently be helpful to the pathologist in arriving at a microscopic diagnosis in border line cases.

A careful, conscientious pathologist is a necessary adjunct to any hospital. It is his duty to check on all tissue removed in the operating room, and with the cooperation of the Surgical Staff to reduce to a minimum the incidence of useless surgery: that is, the removal of normal organs or tissues.

The surgeon can often by his influence assist the pathologist and the resident staff in obtaining autopsies. This is important, for it is sometimes difficult in the smaller hospitals to obtain the necessary fifteen per cent of autopsies that the American Medical Association requires of approved hospitals.

It is the experience of all surgeons who have surgical cases referred to them by the general practitioner, that occasionally the vexatious question of fees will arise. There never was and there never will be any justification for the vicious habit of fee splitting. This traffic in patients and human lives is never justifiable, but despite the great campaign of the American College of Surgeons to eradicate this evil practice, it is still in our midst. As has been said before, physicians and surgeons are human beings and are subject to the frailties of human nature.

Is the medical man who refers a surgical case to the surgeon entitled to more than the normal fee for a house call or an office visit? In most cases he is.

The family physician who makes a diagnosis, contacts the surgeon, and who follows the patient to the hospital, and by his presence at the time of the operation, lends his moral support to the surgeon, renders a special service. His presence at the operation inspires confidence in the patient and in the patient's family. And, whether or not he is conscious of the fact, he assumes part of the responsibility for the final outcome of the case. For such service he is certainly entitled to more than a normal fee. In all cases, however, he must make his own charge and render his own statement.

In all cases in which the patient's welfare is not unduly jeopardized the surgeon must protect the family physician. The surgeon may not agree with the physician's diagnosis and treatment but no good can be accomplished by divulging such disagreement to the patient. The surgeon must treat his consultants as he would like to be treated under similar circumstances.

The surgeon's relations to the courts may be threefold: first, as defendant in malpractice suits; second, as witness to facts and third, as an expert witness.

Every suit for malpractice is based upon the assumption that the surgeon has been negligent in some respect in the care of the patient.

Negligence has been defined as doing something that ought not to be done, or not doing something that ought to be done.

The law requires that surgeons possess and exercise a reasonable knowledge and skill. This knowledge and skill need not be exceptionable, but it must compare favorably with that that is common to the community in which the surgeon practices.

The failure to exercise either one or both in the surgical care of patients, constitutes negligence.

It was long held by the courts that no physician or surgeon could be convicted of malpractice without the introduction of expert medical testimony by the plaintiff.

In a recent pamphlet issued by the Law Department of the Medical Protective Company, many cases are cited, to show that this rule does not always hold true. These cases show that in various courts throughout the country, physicians are being convicted of malpractice purely on lay testimony.

These decisions are based on an old rule of evidence called Res Ipsa Loquitor "the thing speaks for itself." In the trial of malpractice suits if this rule is allowed to apply, cases may go to the jury without the presentation of expert testimony by the plaintiff. Thus, it can be readily seen that a jury viewing the result rather than the cause might, in some instances, render a verdict for the plaintiff that is neither fair nor just.

It is almost an axiom that ethical, conscientious members of the legal profession never lend themselves and their efforts to the introduction of malpractice suits against reputable physicians. Unfortunately for the doctors, some lawyers are not governed by such high principled standards.

Thus, in addition to reasonable knowledge and skill the physician or surgeon is obligated to exercise uncommon care and diligence to avoid all semblance of negligence in the care and treatment of all of his patients.

As a witness to fact, a surgeon can be compelled to appear at court and give testimony as to fact, but he cannot be compelled to give an expert opinion.

The courts are not in accord as to whether or not a surgeon can be compelled to appear as an expert witness.

The surgeon's testimony must be honest, accurate and unbiased. In many cases, both criminal and civil, life and property rights may depend upon the medical testimony.

In the field of Industrial Surgery the surgeon's obligations are threefold. Besides the primary duty he owes the employe, he is also obligated to the employer and to the Compensation Board or Insurance Carrier.

In the first place, the injured employe must be restored to a normal or as nearly normal condition as is possible, so that his ability to work and to earn be impaired to a minimum degree. He must be given sufficient time for this restoration and the estimation of his total and partial disability must be fair and just.

To the employer, the surgeon's duty is manifest.

He must also cooperate with the Compensation Boards and Insurance Carriers. This is especially important in cases of permanent disability, where a fair estimate of the percentage of total and permanent disability is left to the judgment of the surgeon. When there is any conscientious doubt as to the percentage of permanent disability as the result of an industrial accident, the injured employe should receive the benefit of the doubt.

In cases of malingering, when employes have completely recovered from their injuries, but would rather collect compensation insurance than to go back to work, the doctor's cooperation is of great value to the Insurance Carrier.

Until such time as all Compensation Boards and all Insurance Carriers are unanimous in the opinion that there is no such thing as an Accidental Hernia and that such so-called Accidental Herniae are not compensable, Industrial Surgeons will be called upon to contend with this problem.

The question of whether or not Contract Practice is strictly ethical is a controversial one. Convincing arguments, either pro or con may be made on this subject. Unquestionably, in many instances, such practice is unfair to the rank and file of surgeons and general practitioners. It works a hardship on them and takes away from them work and an added livelihood that would ordinarily come to them.

On the other hand, may be the prompt, efficient and well trained medical and surgical care that is rendered to the sick and injured employe, more than compensates for any injustice done to the general profession.

A subject that is rarely written or talked about and that is fraught with considerable delicacy is the care of the dying. Death is a beautiful, a natural thing. Too much unnecessary meddling is sometimes done with the dying. When death is inevitable, cease all medication. Make the dying as comfortable as possible and give them their inherent right to die in peace.

There are probably many more problems and obligations that are a necessary part of any surgeon's life. But with the development of responsibility and the sense of obligation to his hospital, to his associates, to his community and to his God, there also develops a moral sense, a conscience, which perhaps after all is his most important attribute. And it is the conscientious observance of these subordinate duties and obligations that makes the surgeon successful in the primary concern of his profession, that is, the care and welfare of the patient.

ORATION IN MEDICINE

A TRIBUTE TO MY PROFESSION*

A. W. Nickell, M. D.

Louisville.

Permit me on this occasion to express my deepest gratitude to those members of the Kentucky State Medical Association who did me the honor to elect me as its orator in medicine.

It was with a keen sense of responsibility that I assumed this obligation and have labored diligently to bring you something worthy of your consideration, but will feel amply repaid for months of research and investigation if this meets with your earnest approbation.

This thesis naturally implies that we do not simply recall the names of the members of our illustrious craft, dismiss them with a few words of commendation, but must review their deeds, achievements, altruism and the vicissitudes through which they labored in making their constructive contributions to civilization and building well a magnificent structure for the further development of the art and science of medicine and surgery.

Fielding Garrison's authoritative volume; Rolleston of Cambridge; Brown; Podalsky; Sigerest of Hopkins and Selig, whose outlines we follow closely, are among our most reliable research workers in medical history and from such fountains of information we desire to make public acknowledgement; but their writings consist largely of some points of accomplishments and biographical data only, but, search the literature either secular or sacred for some dissertation or encomiums on the doctor or Profession and note the paucity. Ethical conventions have somewhat prevented physicians' labors from becoming fully known and their great services to mankind duly recognized. No important works about physicians have been written like those of Plutarch dealing with the lives of distinguished people in classical times, nothing like Smile's "Lives of the Engineers"; no books corresponding to those of Ruskin on the works of Artists and Architects; no biographical studies like those of Campbell and Birkenhead on "Great Jurists of England." Why our profession is not praised, idealized and held more sacred in the hearts of the people, I do not know. Do our capabilities and conduct warrant it?

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*Delivered before the Kentucky State Medical Association, Richmond, September 15, 1937.

A complete knowledge of a science is impossible without an acquaintance with the history of its development which has an educational value in presenting a clear idea of how its present position has been reached and how errors, pitfalls and fallacies can be avoided, and by indicating new and varied lines for scientific investigation. As I humbly endeavor to unfold this epic, a story of our achievements in the evolution of medicine, I respectfully ask your indulgence if I exceed my time limit by only a few moments. The practice of medicine is the oldest, the theory the most important branch of science to which the human race must appeal to improve and perfect its methods for keeping abreast with the great social and industrial problems arising in the future evolution of civilization. Wells has shown in his outlines of history that four active forces are engaged in shaping the development of civilization. First; the awakening of free thought which the Minoan Greeks recognized, second; the awakening of the free conscience of mankind by the early Christians. The recognition of the solidarity of mankind in the writings of modern philosophers and economists is the third; while the fourth is the recognition of the need of self discipline in every individual in their feeling of social obligations. A careful study of the activity of physicians shows how well the medical profession has conformed to these great universal factors and discloses the further fact, as Browne has indicated, that the physician more than any other professional man has contributed in very great measure to two other of the more important objectives; those of self-sacrifice and altruism.

From the earliest times mankind has experienced injury and disease and has made attempts at prevention, relief or cure, under the influence of the instinct of self preservation or of parental feelings and sympathy for others. The information thus gained by their experience crystallized into empirical knowledge. This primitive medicine was more than superstition and mysticism; experience built up a considerable knowledge in the use of herbs and of rough surgery and "wise women" who undertook mid-wifery.

We will pass over Chinese medicine except to say it developed very early, its progress became arrested so that with forty centuries of experience it is now comparable with that in Europe in the sixteenth century. In 1921 the Rockefeller Foundation opened the Union Medical College and Hospital at Peking, which is the finest medical college in the Orient and has greatly increased the improvements which medical missionaries have been laboring for years to achieve. As for Japan there were medical schools throughout that country in the eighth century of the Christian Era.

In the middle of the sixteenth century European medicine first reached Japan with the arrival of the Portugese and St. Francis Xaxier. In the middle of the eighteenth century Dutch influence was dominant. It is now essentially German in character.

We now pass to the early Egyptians. Alfred Wallace was so impressed with his study of these early contributors that he expressed the hope that man might once again attain the same high level of civilization that characterized the reign of the Pharoahs. Osler pictured them as emerging out of the ocean of oblivion in a highly civilized state sixty centuries ago and under the leadership of Im-Hotep led us out of the morass in which primeval man had journeyed so long as was manifested in the comparatively high state of medical development which prevailed at that time. Egyptian medicine was practiced largely under the Aegis of the gods. Isis and Osiris were the chief deities and Im-Hotep, the father of Egyptian medicine, presided after the fashion of Aesculapius in later Greek mythology. Im-Hotep held four cabinet portfolios which somehow suggests Benjamin Rush, Hubert Work, Sir Michael Foster and Lord Dawson of Penn. The movement of higher thought so far as can be traced has been from magic, through religion to science, but despite the large part that magic and the priesthood played in Egyptian medicine their grasp of the fundamentals was both broad and rational. An amusing commentary on the modern idea that present day medicine is over-ridden by specialists is that the Egyptians employed a special physician for every part of the body. They were conversant with baths, massage, inunctions, food values, emetics, the part played by vermin as carriers of disease and the value of fumigation in epidemics. The surgeons practiced venesection, circumcision, performed amputations, were fair lithotomists, ophthalmologists and dentists; and were rather noted for their efficiency in pharmacy and their drugs in popular use were opium, squill, castor oil, hemlock, suppositories, plasters and various inhalants. This review of Selig shows that science reached a higher stage in Mesopotamia than in Egypt. Still medicine was subjugated largely to religion and magic. While the Jews were not pathfinders they stood out preeminently as promulgators of social hygiene.

The development of medicine in Greece illustrates the influence of environment on national thought. They were inhabiting the Greek peninsula and theirs was a land of peace. They loved nature and were investigators, and the natural sciences, among them medicine, were cultivated intensively and being a sea-faring nation they established contacts with the neighboring peoples that fostered the development and spread of these ideas to other countries. When Sophocles was constructing dramas, Herodotus writing history, Phidias chiseling glorious statues, Plato and Socrates establishing philosophy that has stood for three thousand years, Hippocrates was rationalizing medicine and was converting it from an esoteric art practiced by priests into a discipline resting on a substructure of painstaking observation reinforced by carefully guarded deductions. The principles of clinical analysis which he laid down constitute the foundation of the bedside methods of today. And his aphorisms still read like the hospital notes of a keen present day clinician. He wrote admirable treatises on wounds of the head, dislocations and fractures, on epidemic diseases, on climate and epilepsy and is the author of the earliest and most impressive document in medical ethics—"The Hippocratic Oath." He stemmed superstitions tide and the line of advance in which he placed medicine comes down to our latest discoveries. His death was followed by the rise of Macedonian power under Alexander the Great, the pupil of Aristotle; the deductive philosopher, who imbued him with a great love for science. He established Alexandria in Egypt where the finest traditions of Greek medicine thrived for centuries and where a great museum and library were founded. During this period two clinicians inspired by the spirit of truth stood preeminent, Erasistratus and Herophilus who taught that the brain was the center of the nervous system and that there was a system of chyle vessels and many other fundamentals. The destruction of Corinth marked the downfall of Greece and her complete subjugation to Rome. Roman dominancy, however, was complete only in the realm of world politics, but in lofty ideals the spirit of Greece lived on. Asklepiades, a physician from Asia Minor, had just settled in Rome and transplanted in their unfruitful bed of mystic and primitive practice, the nucleus of Greek medical thought. For a time it seemed that Celsus, the outstanding Roman scientist, would straighten out transplanted Greek medicine but failed to establish his supremacy. But, as happens so often in world crises, an authority was on hand in the person of Claudius Galen, who reestablished the principle of Greek medicine on a firm Hippocratic foundation. He was an anatomist, physiologist, and great clinician covering every field of medicine. He did not like the Roman practitioners who, he said, differed from bandits only in that the physicians practiced in Rome and the bandits in the forest. He dissected and described the brain and gave fine descriptions of the muscular and skeletal systems and did clever, experimental work on the central nervous system and made special studies of the gastro-intestinal tract. His most noteworthy achievement was that he established authority for a period covering the Middle Ages and lasting for about fifteen hundred years.

We now approach the Middle Ages which lasted from the fall of Rome until the Renaissance which was until the end of the 15th century. During these thousand dark years, so called, there was a crippling of trade, science, religion and culture. The rise of Martel and Charlemagne, Saviors of Europe; the supremacy of the church as manifested by the Crusades, an attack of the Turks from the south, an Attila from the north ended with the fall of Constantinople. Through the stimulus afforded by the universities, the discovery of America, the invention of printing and gunpowder the world again found her place, but not in total darkness, but her mind was lying fallow fertilizing for the years to come. The preservation during the Middle Ages of medical learning was due to two important facts. Now in western Europe the Monks transcribed and stored valuable Greek treatises and established the principle that the care of the sick was a duty of Christian love and mercy. In Eastern Europe a group of Scholars at Byzantium who were familiar with the best in Greek philosophy and science did much the same thing. You will remember with the decline of Rome civilization moved east to Byzantium (Constantinople) which was under Constantine the Great and became the capitol of the empire instead of Rome. Now, at the time that the Byzantium literary effort was at its height, Persia was conquered by the Arabs who thus became inured with Greek culture. Therefore, one of the most interesting movements in history developed. Now the Arabs were a Nomadic people who roamed along the North Coast of Africa, treasured these Greek legacies and loved learning and as they traveled here and there along the shores of the Mediterranean they reached Italy and Spain and thus reimplanted in Europe, Greek learning, which had originally started there. One of the most important results of these migrations was the establishment of a medical school at Salerno, Italy and following this the establishment of great universities in Spain, France, England and Germany. Now the founding of universities did not mean that the minds of men had attained the culture and education characteristic of old Greece. An awakening was now evident when the contributions of four Englishmen: Gordon, Anglicus, John of Gaddesden and Roger Bacon who set about to place medicine on a rational basis for the coming of De Chauliac who had reestablished the surgical principles of Hippocrates and wrote a textbook that was an absolute authority for two hundred years until the actual rebirth of science occurred.

The sixteenth century must be remembered as the century of reformation and so far as medicine goes the reform was limited to anatomy, internal medicine and surgery. Now human anatomy as a thoroughly rationalized science was established by Vesalius about the middle of the sixteenth century. From the time he began to study medicine in Paris during the period of his professorship of Anatomy at the University of Padua he dissected assiduously and when he was twenty-nine years of age he collected the results of his studies in his book. "De Fabrica Hummani Corporis", a volume characterized by Osler as one of the great books of the world. Paracelsus did for internal medicine what Vesalius did for anatomy by substituting independent observation and deduction. He was the first to place treatment on a basis of real chemistry; he introduced laudanum, mercury, lead, iron, arsenic and copper: recommended mercury for syphilis, preached surgical cleanliness, recognized the relationship between endemic goiter and cretinism, and popularized hydro-therapy. He initiated, therefore, a reformation no less important for medicine than was the contemporaneous Lutheran reformation for religion.

The seventeenth century approaches with advances in medicine and discoveries, but demands consideration from another standpoint. We are now confronted with the vital relationship between medicine and philosophy. During this period, Francis Bacon, Spinoza, Des Cartes and Von Liebnitz were learned and constructive investigators in the field of philosophic thought. Medicine now is on such a solid basis that it will not appropriate a new doctrine except it is tried and proven worthy but will have nothing to do with philosophic theorizing as to the validity of abstract knowledge. The main stimulus for advancement during this century was furnished by England. France and Germany were busy with devastating wars and made no contributions. During this century English physicians accompanied the early colonizing expeditions to New England and Virginia. William Harvey was the outstanding medical man of the seventeenth century. So fundamental was his discovery of the circulation of the blood that it is almost impossible to realize that medicine could exist without a knowledge of this basic fact. And he only left unexplained the capillaries which linked the two systems demonstrated thirty-three years later by Malpighi, the founder of histology and descriptive embryology. Histology was established, chemistry was elaborated and put on a firm basis, the compound microscope was perfected and internal medicine was further elaborated. Thomas Sydanham, London practitioner, who has been called the English Hippocrates and the Prince of Physicians, stands at the head of a long list of contributors and is designated as the founder of the modern science of epidemiology. On his grave is a tablet placed by the Royal College of Physicians designating him as a physician "famous for all time." Sir Christopher Wrenn introduced intravenous medication and was the famous architect of St. Paul's Cathedral. Richard Lower was the first in history to perform transfusion. These men and measures are of the seventeenth century and the temptation is great to give them more space, but the eighteenth century approaches which was an interlude of general enlightenment and clarification.

Now histology, physiology, pathology and embryology were firmly embodied in the structure of clinical medicine which absorbed a significance that has steadily increased to the present time. Internal medicine was continuing to develop at a rapid rate during this century and was given impetus by three men who have been called the systematizers. Hoffman and Stahl, both of whom held chairs at Halle, and Herman Boehhavve who made Leyden a haven which gathered medical students from over the world and his fame became so general and it is said that a letter addressed from anywhere "To The Greatest Physician in Europe," would have been delivered to his door and who by his influence stimulated the group of physicians in Vienna known as the old Vienna School. During this eighteenth century we encounter such men as Pinel, the emancipator of the insane; Chopart, Pettit and Littre, surgeons who dignified their branch of medicine to a point at which it could proudly lock arms with internal medicine. Antonio Scarpa, who was an orthopedic surgeon, was credited with starting this branch as a specialty. It was in England that medicine was most highly developed by the two Hunters, Pervical Pott, Mead, Askew, Pitcairn, and Baille. Parry first described exophthalmic goiter; Heberden, the Monroe's and Abernethy are all of the eighteenth century. The great

Englishman, Edward Jenner, noted the immunity of dairy maids to smallpox and possessed mental qualifications that by patience and application enabled him to work out the method of vaccination on a strictly scientific basis. Young America felt the wave of this spectacular achievement and we presume the interesting story of Dr. Boylston, who introduced vaccination in Boston, is perhaps familiar to the majority of you present.

During the nineteenth century, Humboldt, Dalton, Charles Darwin and Cuvier lived and worked. Farady produced the fundamental principles of electricity. Schleiden and Schwann produced the cellular theory of human and plant organization. Hemholtz discovered the ophthalmoscope. Anesthesia was introduced into surgery by Long and fixed there by Morton. Roentgen discovered the famous rays. The Curies discovered radium. Florence Nightingale made nursing an art. Behring and Roux discovered diphtheria anti-toxin.

The first half of the nineteenth century also saw the inception of one of the greatest blessings of humanity. I refer to public health and preventive medicine. Epidemics of cholera in England in 1831-49-54 caused such a demand for reform that the state appointed a general board of health in 1848 and the local government board in 1871. Prominent movers in public health service in England—Edwin Chadwick, John Simon and John Snow who showed that cholera was spread by polluted water, thus established the importance of water-borne diseases. The present ministry of health was established in 1919. Pettenkofer of Munich, the founder of experimental hygiene, first instituted a laboratory for hygienic investigation. Brownlee, by applying expert statistical knowledge to epidemiology showed that the occurrence and duration of epidemics could be accurately foretold. In America the care of public health was first entrusted to the Marine Hospital Service. Lemuel Shattuck in 1850 acted in the same stimulating capacity as Chadwick did in England. J. S. Billings was a power in preventive medicine and Herman Biggs an internationally minded administrator and while from that date to the present there was and is a galaxy of distinguished health administrators, making their daily contributions, we must not forget your friends, and my friends, our own intrepid and invincible leaders, Dr. J. N. McCormack and his distinguished son, Dr. A. T. McCormack, than whom for high objectives, lofty vision, honesty of purpose, and indefatigable efforts of head and heart, to elevate the standards of public health, I doubt if there ever was or ever will be greater examplars. The establishment of anti-natal, tuberculosis, school, child welfare, dental, periodic health examinations and venereal clinics has done much to improve the national health. Its influence coupled with preventive medicine is approaching a goal toward their most sanguine expectations.

With the establishment of bacteriology as a science by Louis Pasteur, the etiology of infectious diseases was firmly established, and thus provided Joseph Lister with a sure basis for antiseptic surgery and efficient sterilization. His recognition of streptococci was followed by a fall in puerperal infection which was perfected by Semmelweiss. His protective vaccination against anthrax and other infections culminated in the treatment with the attenuated virus of persons in the incubation period of hydrophobia with the result that the mortality was three per thousand only. Robert Koch, by developing the technique of special culture media and stains discovered the tubercular bacillus, (1882), the cholera vibrio (1883), Loeffler the diphtheria bacillus, Kitasato the bacilli of tetanus (1889) and the plague in 1894. Elberth and Gaffsky the typhoid and others altered the face of medical knowledge. The discovery and isolation of bacterial toxins led to the successful anti-toxic sera for treatment of and later for protection against tetanus and diphtheria. The science of immunology including the problems of anaphylaxis followed and provided diagnostic serological tests for infection, such as the agglutination reactions for enteric (Widal's reaction) undulant and other fevers, complement deviation tests, such as the Wassermann reaction for syphilis (1906) and cutaneous tests for sensitization such as Pirquet's for tuberculosis and those for asthma. The Schick test for the detection of susceptibility to diphtheria (1911) and the Dick test on similar lines as regards scarlet fever (1923) are later developments and of value in the prevention of these infections. Specific treatments on the lines originated by Pasteur were extended by Almroth Wright whose anti-typhoid vaccine was followed by general vaccine therapy. Chemotherapy or the introduction into the host's circulation of anti-septics which kill the parasites without damage to the patient was the ideal of Paul Ehrlich, the inventor of the sidechain theory of immunity, and the father of hematology; its most widely known success was the employment of salvarsan or 606 (1910) in syphilitic infection; (Rolleston) this treatment was intended to destroy the treponema pallidum discovered by Max Schaudinn in 1905.

The recognition of ultra-microscopic viruses dates from Loeffler and Frosch's observations on foot and mouth disease in 1898. A large number of diseases has been ascribed to their activity. The application of bacteriology in epidemics of infectious diseases continues to be studied by Simon Flexner at the Rockefeller Institute and by W. C. Topley with the collaboration of Major Greenwood. Protozoology and the importance of insect carriers of disease have in a large way modified preventive and tropical practice. We are indebted to Theobald Smith who in 1889 showed that cattle ticks transmitted the virus of Texas fever. Laveran discovered the malarial parasite in 1880 and in 1898 stimulated by Patrick Mansen, the father of tropical medicine, Ronald Ross began work on the analogy of his demonstration in 1878 that filarial disease is transmitted by the culex mosquito, proved that this mode of transmission holds true for malaria. Walter Reed showed in 1901 that the stegomyia mosquito is the vector of the yellow fever virus. Numerous anti-mosquito measures have been undertaken to prevent malaria and yellow fever; a most remarkable demonstration of how the tropics could be made habitable for the white man was the completion of the Panama Canal situated in one of the most unhealthy parts of the world, as a result of the fine work of W. C. Gorgas and his sanitary organization. A preventive campaign against malaria, yellow fever and other infective and parasitic diseases has been extended with good results by the International Health Division of the Rockefeller Foundation.

Vitamins are accessory foods factors necessary for health and development. We note their absence responsible for deficiency diseases; in scurvy we note the absence of vitamin C, pellegra and beri-beri vitamin B, rickets vitamins A and D. These are important and are due to the researches of Hopkins of Cambridge, England, and E. V. McCullum and others.

Christian divides the last seventy-five years into three periods according to the predominant line of research underlying each period in the practice of clinical medicine. The first period was interested in morbid anatomy and the intensive study of physical signs, the second was outstanding due to the activity of bacteriologists and their experimental methods; this century has seen investigation of disorders of function; metabolism and bio-chemistry occupying a place of prominence. When we investigate and get the first evidence of departure from health or the earliest stages of disease before structural changes have occurred it is very difficult and requires not only examination of the patient's functions by laboratory tests but of their environment that can be carried out by a scheme of social service and follow-up systems introduced by Cabot in 1905 at the Massachusetts General Hospital in Boston and by health visitors. Part of the problem of preventive medicine is to investigate the earliest stages of disease and this prompted James McKenzie in 1918 to found the St. Andrews Clinic for clinical research. As an example research workers in laboratories all over the civilized world are endeavoring to find the cause of malignant disease but so far this basis offers little or nothing for its prevention and cure. The recent study of statistics and the application of biometric methods by Pearson and his followers in a new school for organized research has given us much information on many difficult problems of etiology and epidemiology. You have also made great progress in infectious and respiratory diseases, diseases of the digestive and urogenital system, locomotor system, the nervous system, disorders of metabolism, including the endocrine glands, the heart and vascular system and the recent works on allergy, the hormones of the endocrine glands, anterior and posterior pituitary, thyroid, supra-renals, pancreas, liver and gonads have been isolated and utilized in the treatment of endocrine diseases. The most important of these was insulin, isolated by Banting and his associates in 1922.

Before pulling aside the curtain to look into the field of cardiology, we must mention a word about William Withering of Birmingham, England, the first physician to administer digitalis in proper dosage. He noted that infusions made from digitalis leaves and given in rather large doses would produce diuresis and amelioration of symptoms in dropsical patients suffering from cardiac decompensation. It is interesting to know that he believed the dosage should be up to the point of producing nausea, the full physiological amount, because in smaller quantities the drug is not nearly so efficacious. He gave this for relief in dropsy, no distinction having been made at that time between cardiac and renal dropsy, which was later differentiated by Bright. Digitalis was originally given for the purpose of diminishing the force of the heart beat, but Withering's experiments proved that cardiac reaction was acceleration rather than diminution. His tests were initially made upon frogs but subsequently on the hearts of mammals, these being kept alive by artificial respiration. The use of digitalis as tonic became rapidly popular and known as one of the most powerful remedies. It was freely indicated at the time for heart lesions in general and its effect on cases of dropsy was not only highly efficacious but superior to anything hitherto known. Withering's "Account of the

Foxglove and Some of its Medical Uses'' appeared in 1785. His opinion had been asked on a family recipe for the cure of dropsy. This recipe had been kept a secret by an old woman of Shropshire and thanks for which she effected a cure in cases where the most clever physicians had failed. Her recipe contained about twenty different herbs, but it was easy for an expert to discover that the active ingredient was digitalis. Withering prescribed it for about two or three thousand indigent people who came to consult him every year. He realized that digitalis acts like a strong diuretic and communicated the results of his experiments to the Society of Medicine at Edinburgh. ''I use it in cases of ascites and hydro-thorax'' and as far as the elimination of water will contribute to the cure of the patient so far does this treatment give hope. but I should not like to see it, said he, used for ascites in women believing that many of these cases have dropsy of the ovary. He also added that digitalis had been reinstituted in the pharmacopoeia of Edinburgh on recommendation of Dr. Hope but expressed his conviction that it would be again rejected if its administration were continued in an unlimited manner as had hitherto been done at Edinburgh and in doses as strong as had been given in London (Browne).

One extremely important reason for the present advance in the field of cardiology is the understanding that the functional disturbances of the heart must be sought in the recent evolution undergone in the study of its normal physiology under the leadership of Englemann in Holland and of Gaskell in England. Complete heart block was described by His and our knowledge of the different arythmias was further developed after Einthoven, a Dutch physiologist, worked out his electrocardiographic method for the examination of the heart used first chiefly by Thomas Lewis and now clinicians everywhere are working strenuously in this field. The result has been not only a more thorough understanding of the construction of the heart and of the mechanism of the heart beat under normal and abnormal conditions, but also the study of a series of well marked functional disorders, such as partial heart block, paroxysmal tachycardia, auricular fibrillation and extra systolic arythmia. The elaboration of the other systems above mentioned with your brilliant results therein obtained constitute some of the most spectacular and constructive work in medical history.

The great development of medicine in North America in the last years of the nineteenth century coincided with William Osler's activities at the Johns Hopkins Hospital and must be largely ascribed to his energy and ideals which his former pupils when becoming teachers carried to other schools. Decentralization and cleavage of medicine into separate compartments has necessitated a system of teamwork which has long been an essential part of large hospitals for the poor. The principle of combined investigation of the patient by a group of specialists working together was systematically adopted and carried to its logical conclusion at the Mayo Clinic, and its phenomenal success has led to its imitation in private practice (group medicine and diagnostic clinics) so that the well-to-do can obtain the same advantages as the poor receive in hospitals. The expansion of knowledge has resulted in the establishment of whole time teachers in the ancillary sciences. At present the plan of whole time teachers of medicine, surgery and obstetrics, though adopted and on trial in a number of medical schools, is not so general as the professors and teachers of the pre-clinical sciences. Clinical medicine has been greatly influenced in the present century by a far reaching organization and endowment for medical research. The Rockefeller Foundation in New York with its motto ''The Well-being of Mankind Throughout the World,'' and the medical research council in Great Britain has offered financial inducements to whole time research workers, because more than ever have generous endowments been made by public bodies and private donors so that the opportunities for original work have been immensely increased. Formerly, research advancing medical knowledge was due largely to individual and isolated effort. But teamwork has now become more prolific in that field.

Medical education, under-graduate and post-graduate, has met with such commendable consideration that organization and improvement followed and ''the fields are now ripe unto harvest'' for still greater achievements, if our efforts are properly correlated and directed in the great field of Internal Medicine.''

And now in closing as all doctors do not at all times follow the straight and narrow path, would it be amiss to add another objective? That of improving the moral side. In fact, I believe it becomes us on this occasion not only as doctors but as patriots and citizens to proceed as the good man does who dedicates his birthday to the consideration of his character and the mode in which its vices may be corrected and its virtues strengthened. Let us consider for a few moments what we can do to elevate and strengthen character, to add to the happiness of all and to attain that righteousness which exalted a nation. The true honor of our profession is to be found only in deeds of justice and happiness for our people.

He is the true benefactor and alone worthy of honor who brings comfort where before was wretchedness; who dries the tear of sorrow; who pours oil into the wound of the unfortunate; who feeds the hungry and clothes the naked; who unlooses the fetters of the slave; who does justice; who enlightens the ignorant; who enlivens and exalts by his virtuous genius in art, in literature and in science the hours of life; who by word or action inspires a love for God and man. This is the man of honor in a Christian land. He is no benefactor nor deserving of honor whatever may be his worldly renown, whose life is passed in works of force and who renounces the great law of Christian brotherhood. The heaven descended injunction, ''know thyself,'' still speaks to an ignorant world from the distant letter of gold at Delphi, ''know thyself,'' know that the moral nature is the most noble part of man, transcending by far that part which is the seat of passion and strife, nobler than the intellect itself. True greatness consists in imitating as near as possible for finite man the perfections of an infinite creator. Above all, in cultivating those highest perfections, justice and love. Justice, which like that of St. Louis, swerves not to the right nor to the left. Love, which like that of William Penn, regards all mankind as kin. True greatness of our profession is in those qualities which constitute the greatness of the individual. It is not to be found in extent of territory, nor in wealth, though, covered by monuments that kiss the clouds, for these are the creatures and representatives of those qualities of our nature which are unlike anything in God's nature. Nor is the greatness of our profession to be found in the intellect alone, nor in literature, learning, science or art. The polished Greeks, the world's master in the delights of language and in range of thought, and the commanding Romans overawing the earth with their power, were little more than splendid savages and in the age of Louis the 14th of France, spanning so long a period of worldly magnificence, thronged by marshals bending under military laurels, enlivened by the unsurpassed comedy of Moliere, dignified by the magic genius of Corneille, illumined by the splendors of Bassuet, is degraded by immoralities that cannot be mentioned without a blush; by a heartlessness in comparison with which the ice of Nova Zembla is warm and by a succession of deeds of injustice not to be washed away by the tears of all the recording angels of Heaven. Literature and art may widen the sphere of our national greatness and influence, they may adorn it but they are but accessories. The true grandeur of our profession is in moral elevation, sustained, enlightened and decorated by the intellect of man. The truest tokens of this grandeur are the diffusion of the greatest happiness among the greatest number and the passionless, God-like justice which controls the relations of our profession to other professions and to all the people who are committed to our charge. The flowers of gentleness, of kindliness, of fidelity to humanity receive unwanted admiration like violets shedding their perfume on perilous edges of the precipice beyond the smiling borders of civilization. As we look down through the vista of years we discern with horror the appalling death list from diseases by which their progress has been marked. Let it not be in the future ages as in the past and present, let the grandeur of the profession be discerned in the blessings it has accomplished in the establishment and perpetuation of greater health and well being. Such precedents as England, our own and other countries have set in some of these particulars constitute some of the great landmarks of civilization. Nay, more such contributions are links in the chain by which they connect themselves with the throne of God. That future which filled the lofty vision of the sages and bards of Greece and Rome, which was foretold by the prophets and heralded by the evangelists. When man in happy isles or in a new paradise shall confess the blessings of health and happiness, may be approached by our diligent work and cooperative efforts if not for ourselves at least for our children. The true golden age is before us and the world is bound to grow better and happier as our religion, education and great health work progresses and by the cultivation of the kindly virtues of life, where the confusion of tongues shall be dissolved in the union of hearts, where there shall be a perpetual, jocund spring and the sweet strains borne over the ''odoriferous wind of gentle gales'' more pleasant than the vale of Tempe, richer than the garden of the Hesperades. The age demands this work, the distress of millions made confirmed invalids by disease demand it. the voice of all good people demand it, the conscience of even the workers themselves. We are fervently implored to take the lead in this great work, to this should bend the patriotic ardor of the land, the ambition of the statesman, the efforts of the scholar, the pervasive influence of the press, the mild persuasion of the sanctuary, the early teachings of the schools. Here are untried fields for exalted triumphs and truly worthy of the American name.

Now, gentlemen, after hearing this story of the development of medicine through the ages and the recitation of your spectacular accomplishments, who could not gain inspiration by solemn retrospection of these men and measures through the ages? From the inception of our work, these men have been the great central figures of the world and their names the harbinger of victory. The story of their lives savors more of romance than of reality. It is more like a fable tale of ancient days than the history of an American citizen of the twentieth century. As light and shade produce the most attractive effects in a picture, so the singular contrasts, the strange vicissitudes in your most marvelous careers, surround you with an interest which attaches to few characters in history. There are many features of your extraordinary career which appeal to the imagination, excite men's wonder and fascinate all who read the story of your lives. Your methods are stamped with tenacity of purpose, with originality and ingenuity. Most of you depend more upon the powers of invention than of adaptation, and are possessed of a moral and physical courage which has been equal to the emergencies in which you were placed; calm amidst excitement, patient under trials, never unduly elated by victory nor depressed by defeat. While you possess a sensitive nature and a great heart, you never allow sentiment to interfere with the stern duties of your profession. You feel that the hardest blows bring the quickest results, as more men die from disease in sickly camps than from shot and shell in battle. Your magnanimity to foes, your generosity to friends will be talked of as long as manly qualities are honored. You are speaking no idle platitudes, no stilted epigrams when you express the convictions of honest hearts and say by your actions we must work tirelessly to eliminate disease. With hearts untouched by jealousy, with souls too great for rivalry you have always stood ready to abandon the path of ambition when it became so narrow that two could not tread it abreast. If there be one word in all the wealth of the English language which best describes the predominating trait of your character, that word is loyalty. Loyalty to every great cause and work, loyalty to friends, loyalty to patients, loyalty to country, to your family and to your God. This produces a reciprocal effect with all who come in contact with you. You have had the courage to be just, to stand between worthy men and their unworthy slanderers; and to let kindly sentiment have a voice in an age in which the heart plays so small a part in public life. Our profession has had many friends who loved us for our own sake, whose attachment strengthened only with time, "whose affection knew neither variableness nor shadow of turning." It seems you are essentially created for great emergencies. It is the very magnitude of the task which calls forth the powers which master it. In ordinary matters you are ordinary men. In momentous affairs you tower as giants. Your names are and should be indelibly engraved upon hearts of those who appreciate you. Your services attest your greatness. You did your duty and trusted to history for your need of praise. The more history discusses you the more brilliant becomes the luster of your deeds. Your record is like a torch, the more it is shaken the brighter it burns. The names of the members of our illustrious profession will stand imperishable when epitaphs have vanished utterly and monuments and statues have crumbled into dust; but the people of this great country of ours, everywhere renowned for their deeds of generosity, have covered themselves with glory in fashioning in enduring bronze and in monumental rock, magnificent statues of some of our immortal dead and as we gaze upon their graceful lines and colossal proportions, we are not only reminded of their magnificent deeds but the childlike simplicity which was mingled with the majestic grandeur of their nature. The memories clustering around these great doctors will recall the heroic age of the republic, it will point the path of loyalty to children yet unborn; its mute eloquence will plead for equal sacrifice should epidemics threaten our national life. Generations yet to come, will, during their time of life, pause to read understandingly inscriptions on their tombstones. And the voices of a grateful people will ascend from the consecrated spots on which they stand as incense rises from holy places, invoking blessings upon the memory of those who filled to the very full the largest measure of human happiness and covered the earth with their renown.

May the recognition of this work, well done, inspire us to still nobler achievements and may we, this day, in old Kentucky, lay a new stone in the grand temple of universal health, whose dome shall be as lofty as the firmament of heaven, as comprehensive as the earth itself.

Meningitis Due to Torula Histolytica—Sawers and Thomson report a case of meningitis caused by Torula histolytica. The diagnosis is necessarily a laboratory function and, unless the possibility of such infection is borne in mind, the microscopic appearances of preparations from the cerebrospinal fluid may be overlooked and the presence of yeastlike colonies on cultivation may be attributed to contamination.

THE IMPORTANCE OF THE EARLY DIAGNOSIS AND TREATMENT OF ACUTE INFLAMMATION OF THE MIDDLE EAR*

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In presenting the subject of this paper for your consideration, I have nothing new or original to present, but merely wish to make a few suggestions for the purpose of stimulating a more general interest in the acute inflammations of the middle ear, that must necessarily first come under the care of the general practitioner. By the early recognition and prompt treatment of acute inflammation of the middle ear subsequent deafness, as well as the more serious and often fatal complications, will, in the majority of cases, be prevented.

So long as we retain all the blessings and advantages of our special senses, it is doubtful if we fully understand and appreciate the grim suffering of those deprived of the functional activity of one or more of Nature's special endowments. Unfortunate as is the loss of hearing, especially in infants and young children, there are other questions of equal importance resulting from deafness which are worthy of serious thought. The normal development of the moral and intellectual faculties are to a large degree dependent upon the proper functioning of the organ of hearing; so also is the power of speech. Speech is an imitative faculty, since we learn to talk by imitating those about us. Manifestly, therefore, if from some disease or defect of the ears, there is an absence of hearing, speech cannot be acquired. For the same reason and in a similar manner, the intellectual faculties remain in a perpetual sleep, while the moral side of life inclines towards degeneration rather than quiescence. The loss of hearing in children between 2 and 6 years of age will result in their becoming mute; not that the inability to articulate is caused by any functional or pathologic condition of the larynx, but solely from the fact that in the absence of hearing the child soon forgets how to talk.

The early recognition of acute inflammation of the middle ear is an exceedingly important matter, not only for the purpose of giving relief from the immediate suffering, that is at times most intense, but an urgent interest in such cases is especially required from the fact that their prompt and proper treatment is always of vital importance to the patient.

Since the great majority of ear diseases have their incipiency in infancy and early childhood, and, as the practitioner of general medicine is always, and very properly, the first to be consulted in all that pertains to the health and physical care of his patient, he must, therefore, to a great extent be responsible for the proper management of these incipient ear troubles and for the prevention of the possible serious complications.

During the past few years it has fallen to my lot to see several infants die of middle ear disease, and, unfortunately, in every case the trouble had not been recognized until within a few hours of their death. Some of these patients were thought to have been suffering from "brain fever" and others from "meningitis." I have also seen a number of cases in older children, some of which were thought to have typhoid fever and others bronchopneumonia, until the drum membrane ruptured spontaneously and pus appeared in the external auditory canal.

We should not hastily conclude that a child is "born with a temper" simply because its youthful being is disposed to resent suffering, and so resorts to crying as its only means of expression. When a child frets and cries persistently and the cause cannot be otherwise located, an examination of the ears will frequently reveal the difficulty and suggest prompt means of relief. Likewise, a persistently high temperature in a child, which cannot be accounted for, should immediately suggest an aural examination.

A brief survey of the more important anatomical points will give a better understanding of the pathological changes occurring in aural disease. The mucosa covering the nasopharynx acts also as a mucous lining for the Eustachian tube and middle ear cavity, and, being greatly modified, forms the internal layer of the membrana tympani. It likewise covers the ossicles, and, finally, serves as the protective covering of the mastoid antrum and cells. Because of this intimate mucosa relationship, it will readily be appreciated how easily, by continuity, an inflammatory process of the throat or nasopharynx can involve the middle ear and adjacent structures by way of the Eustachian tube.

The notably thin bony framework of the middle-ear cavity is surrounded by some of the most vital structures of the human economy. The roof of this cavity, always thin, is in some instances entirely absent, particularly in young children and infants. The carotid canal, through which passes the carotid artery, forms the anterior wall; the jugular fossa, in which lies the bulb of the jugular vein constitutes the floor, while the roof is formed by the floor of the middle fossa of the skull, on which rests the tempero-sphenoidal lobe of the cerebrum. Above and behind the oval window on the internal wall is situated the Fallopian canal, which contains the tympanic branch of the facial nerve. The bony wall separating the lateral sinus from the mastoid cells is also thin to the point of translucency.

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*Read before the Clark County Medical Society.

The foregoing facts make it apparent with what facility the meninges may be implicated through the roof, or the jugular vein through a dehiscence or carious erosion of the floor. The labyrinth, or nervous part of the organ of hearing, may likewise be involved by erosion through the internal tympanic wall. It should be noted also how easily Bell's palsy may be caused by injury to or disease of the tympanic branch of the facial nerve, as may likewise a greater or less disturbance of the equilibrium should the middle-ear disease extend to the semi-circular canals.

While the tympanic cavity and mastoid antrum and cells are usually spoken of as distinct and separate cavities, the latter are, in reality, accessory to the former, being separated from it by a comparatively narrow space. Herein is afforded an explanation of the usual involvement of the mastoid process to a greater or less extent in practically all acute inflammatory diseases of the middle ear.

In speaking of acute inflammation of the middle ear, I shall include both the acute catarrhal and the acute suppurative forms, inasmuch as the etiology is identical for both forms, and the symptoms, both objective and subjective, are similar, varying only in the degree of their intensity, the acute catarrhal passing imperceptibly into the acute suppurative, so that it is quite impossible to state definitely where an acute catarrhal process ends and the acute suppurative begins.

I prefer to regard the two conditions as one and the same process, which may be arrested in the early, or catarrhal stage, or may go on to the second stage, or stage of suppuration. While I believe that all suppurative inflammations of the middle ear are preceded by a catarrhal stage, yet in some instances the disease progresses to the stage of suppuration with such rapidity that we frequently look upon the inflammation as being suppurative from its inception. This is notably true of the acute otitis media which occurs as a complication of measles, scarlatina, diphtheria, pneumonia, enteric fever and influenza. Measles and influenza are probably productive of more serious disturbances of the ear than all other diseases combined. This is especially true of influenza, which has a special predilection for the middle ear and mastoid. Previous to the widespread prevalence of influenza, inflammation of the tympanic cavity and mastoid requiring operative interference was comparatively rare, while at the present day these are among the most common diseases.

Bearing in mind the great frequeney of acute otitis media as a complication of the acute infectious diseases, I think that a routine examination of the ears should be made in every case, and a recrudescence should always direct the attention to the ears as a possible seat of secondary infection. I have frequently been called to see a case of one of the infectious diseases where the attention had first been directed to the ears by the appearance of discharge in the external auditory canal. Spontaneous rupture of the drum membrane could have been prevented in all of these cases if a routine examination of the ears had been practiced.

Personally, I feel that we are always more or less guilty of negligence when we permit the tympanic membrane to rupture spontaneously. For this reason I have made it a rule in every case of otitis media complicating one of the acute infectious diseases to incise the drum membrane immediately when symptoms of middle ear involvement manifest themselves, and I never wait for bulging of the drum membrane, because we know that the infection in these cases is always exceedingly virulent and spontaneous rupture occurs with great rapidity.

Acute catarrhal and acute suppurative otitis media present practically the same picture at the onset. If the symptoms, however severe, yield without incision or perforation of the membrana tympani, the case is usually regarded as catarrhal in nature; but if it becomes necessary to incise the drum membrane, or if the destructive activity of the infection causes necrosis and maceration of the tympanic mucosa, with consequent perforation and discharge, then there exists a purulent inflammation, or acute suppurative otitis media.

The first symptom noticed by the patient is a feeling of fullness or dullness in the ear, which is soon followed by severe pain, radiating in all directions over the head and becoming greater at night. In adults the temperature is usually only slightly elevated, while in infants and young children it runs a much higher course, often reaching 103 or 104, the child frequently having delirium and convulsions, owing to the thinness of the roof of the tympanic cavity or dehiscences therein, the mucous membrane of the tympanum and the dura being in contact thus causing meningeal irritation. In all acute diseases of the ear in young children it will be noticed that the child puts its hand to its head or pulls the ear, and the head is usually turned toward the affected side when the inflammation is unilateral.

With the production of the inflammatory exudate within the tympanic cavity, tinnitus aurium and deafness manifest themselves. The patient may also complain of autophony, a condition in which the patient's voice sounds too loud or abnormal to himself, and diplacusis, the hearing of one sound as two. The Eustachian tube is usually occluded on account of the hyperemia and swelling at the tympanic end. Owing to the continuity of the mucous membrane of the tympanic cavity, which extends in through the aditus ad antrum to line the mastoid antrum and cells, there is in every case of acute otitis media more or less involvement of the mastoid. As a rule, however, this amounts to only a hyperemia of the mucosa, which readily subsides with the relief of the middle ear inflammation.

If the case is seen early, inspection of the tympanic membrane by means of the ear speculum and reflected light, will reveal hyperemia of Shrapnell's membrane and also along the long process of the malleus, from which points it gradually spreads until later the entire membrane is involved and all the landmarks become obliterated. The bony portion of the external auditory canal is frequently involved, so that it is often impossible to determine where the canal stops and the drum membrane begins. If the disease is recognized in this early stage, or stage of hyperemia, and prompt remedial measures instituted, a large percentage of the cases can be arrested.

With the accumulation of the exudate within the tympanic cavity bulging of the drum membrane is likely to occur. As the pus accumulates the bulging outward of the drum membrane correspondingly increases, and the tension resulting therefrom intensifies the pain almost beyond endurance. It is in this stage of the disease that immediate relief is so earnestly demanded for the present and future welfare of the unfortunate sufferer.

Should the patient have the good fortune to have the distended drum promptly incised in order to promote the free escape of pus, and this followed by general antiseptic care, the hearing will in most instances be quickly recovered, the discharge will cease, and all the functions of the organ will soon be reestablished.

If, however, the pus is not promptly evacuated the patient is in imminent danger of one or more of the serious consequences that follow such neglect. Should the drum be so thickened and bound down by adhesions as to enable it to resist the pressure,as is sometimes the case, the pus will then, by one of the several means of communication, produce a septic inflammation of the brain or its coverings, which usually has the result of a prompt fatal issue. Or the pus may communicate with the mastoid antrum, thence to the mastoid cells, thereby subjecting the patient to all the serious, and ofttimes fatal, complications of such a condition.

Free evacuation of the pus in the tympanic cavity, either by means of incision or as a result of spontaneous rupture, promptly relieves the pain and the temperature usually subsides. A continuance or recurrence of pain following incision or spontaneous rupture of the drum membrane means one of two things, either obstruction to the drainage or mastoid or intracranial complication. A discharging ear, pain in the region of the mastoid or side of the head, especially if it interferes with sleep, pain on pressure over the mastoid antrum or tip of the process, with systemic disturbances, after the third or fourth day of an acute otitis media in which there is free drainage is an indication for surgical interference. It is just as hazardous to wait for external evidence of pus formation in the mastoid as it is in the abdominal cavity.

While it was formerly believed that mastoid and intracranial complications were practically always the result of the chronic variety, it is now generally accepted that these complications result from acute suppurative inflammation of the middle ear as well as from the chronic form. During the past few years I have had the misfortune to see a considerable number of these serious complications in acute cases, many resulting fatally, so that I have come to look upon them as being almost, if not quite, as frequent in the acute form. I must also express the belief that they are in many cases preventable, and therefore we must consider it the imperative duty of every practitioner of medicine to be able to promptly recognize and immediately care for an acute suppurative inflammation of the tympanic cavity.

The importance of these inflammations of the middle ear has a renewed and increasing interest when we consider the multitude of deaf-mutes that are directly traceable to a discharging ear as a consequence of one of the exanthemata. Contrary to general belief, deaf-mutism is not a distinct disease in itself, any more than a pain or a rise of temperature could be regarded as an entirely separate ailment. Very properly, therefore, deaf-mutism must be accepted as a symptom or, still better, as a sequela of an existing disease. Moreover, as the organs of phonation and articulation are perfectly normal in deaf-mutes, their inability to speak is usually the result of deafness.

Inasmuch as a large percentage of cases

of deaf-mutism are acquired as the result of suppurative middle ear disease, I think it is safe to assert that most of these acquired cases would have been prevented if an early diagnosis had been made and the pus in the tympanic cavity had been promptly evacuated at the proper moment, followed by mild antiseptic irrigation of the external auditory canal, inflation of the tympanic cavity, local blood-letting, and proper care of the throat. When this line of treatment is properly carried out, an acute abscess, from whatever cause, will in most cases promptly recover. The relief from suffering is almost immediate, the discharge will have been arrested in a few days, and the hearing is usually restored in two or three weeks.

On the other hand, if this simple, but highly important, care is not taken, the pain increases in proportion to the distention of the membrana tympani by the progressive accumulation of pus in the tympanum, until finally the pressure becomes so great that the tension of the drum is overtaxed, and with a report quite audible to the patient it ruptures, a copious flow of pus follows, and the suffering is relieved. By this time, however, great damage has been done both to the membrana tympani and the tympanic cavity. Instead of the opening in the drumhead quickly repairing, as it will do when incised, its lacerated edges are much slower to mend. The injury done to the delicate mucous membrane lining of the tympanic cavity gives rise to a discharge that becomes more or less chronic, and this in turn is conducive to one or more of the many serious complications that too frequently follow such a condition. Should this discharge continue for any great length of time, caries and necrosis of the ossicles, with destruction of the membrana tympani, and later the walls of the tympanic cavity, are almost sure to occur.

It is from these neglected cases of either acute or chronic suppurative inflammation of the middle ear that we have deafness and deaf-mutism, caries and necrosis, mastoid abscess, abscess of the brain, diffuse meningitis, osteo-phlebitis, thrombosis of the lateral sinus, pyemia, and infectious inflammation of the liver and other internal organs.

Angina Pectoris and Insulin— Jordan states that only with meticulous care can one so regulate the dosage as to control the diabetes and at the same time avoid insulin reactions. Elderly diabetic patients are subject to cardiac attacks and one must be careful to avoid injury to the heart and not precipitate such an attack by an overdosage of insulin.

COMPLETE INVERSION OF THE UTERUS; REPORT OF CASE SUCCESSFULLY TREATED BY MANUAL REPOSITION*

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Inversion of the uterus is a condition where the inner mucous lining becomes the outer coat and the outer serous covering the inner coat. It is essentially a turning inside-out of the uterus. Cases are described as acute, when the condition has been present for a month or less, and chronic when of longer duration. The acute cases are practically all post-partum, the chronic cases may follow delivery or may be the result of some pathological condition such as a tumor causing traction. In an incomplete inversion the degree of dimpling varies but the inverted fundus does not pass beyond the cervix. In the complete form the inverted fundus passes through the cervix into the vagina and may present itself beyond the vulva. While it is possible for the cervix to be involved as a rule it remains as a firm constricting ring surrounding the protruding mass. Although inversion of the uterus has been recognized since the time of Hippocrates the rarity of the condition is shown by the following references: Graves quotes Jones' collected figures showing an average of 1 case in 128,767 labors and De Lee reports statistics of others where only one case was observed in 190,000 consecutive deliveries. However, in the new edition of Williams' textbook the incidence is quoted as one in 4,000 deliveries.

The initial symptoms in acute cases are those of shock and hemorrhage. Retention of urine may occur as in the case to be reported. Infection is of course, to be expected after a variable length of time. The chronic cases will cause the usual symptoms of prolapse. Physical examination will show the general signs of anemia and sepsis. Abdominal palpation may show the depression of the fundus and in acute cases with lax musculature the examiner may detect a funnel shaped dimpling instead of the enlarged partially involuted fundus. Vaginal examination will show the protruding mass if the version is complete. The size of the mass will vary—being larger in the acute cases. In differentiating the mass from a simple pedunculated fibroid the important consideration is the length of the uterine canal which is much shortened in inversion of the uterus.

The course of the disease is stationary or progressively worse. Inversion does not tend

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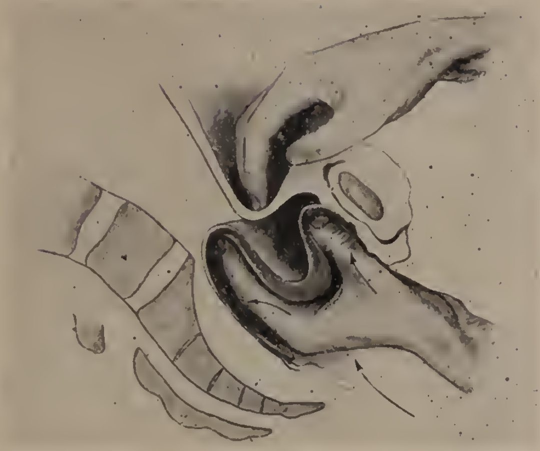
*Read before the Jefferson County Medical Society, September 20, 1937.



Taken from "The Principles and Practice of Obstetrics" by Joseph B. DeLee, 3rd Edition.

to correct itself. Patients having the condition are miserable and repeated hemorrhages with extending infection may prove fatal.

The ideal treatment in acute cases is immediate manual reduction which will be described as used in the case to be reported. Operative measures which have been employed include multiple incisions through the constricting ring, dilatation through a median abdominal incision or an incision through the posterior wall of the inverted fundus, amputation of the protruding mass, hysterectomy, etc. At present the generally accepted surgical procedures are those of Kustner and Spinelli. The former advocated transverse incision in the cul-de-sac followed by a long incision in the posterior wall of the fundus, reposition, and suture of the incision. Spinelli's operation which is more generally accepted is characterized by the anterior approach, the bladder being pushed upward, the peritoneal cavity entered at the vesico-uterine pouch, and the division of the fundus carried along the anterior wall after incising the cervix.

The case prompting this report is that occurring in Mrs. J. S. I was called to see her on the 12th day post-partum because of a persistent urinary retention which was attributed to a prolapse. She was a primipara 22 years old and had had a rather difficult forceps delivery with two one-half cc. doses of pituitrin during the second stage, a 2nd degree laceration of perineum, and Crede extraction of the placenta. Hemorrhage was greater than usual and she had voided only on the first two post-partum days. Although she was able to nurse her baby regularly she was quite weak and complained of unusually severe backache. On the 10th day post-partum she had been sent to the lavatory in an effort to help her void. While straining there she had a sudden hemorrhage, severe pain, and protrusion of a mass at the vulva. The intern pushed the mass into the vagina and suggested the need for a support to take care of what he thought was a prolapse.

Upon physical examination the anemia was quite marked but there was no evidence of gross sepsis. The temperature was 100.2, pulse 120, and respiration 24. The breasts showed normal distention and no signs of inflammation. The abdomen was flat and soft, and there was no unusual tenderness. The usually palpable post-partum fundus was not felt and the nurse in charge offered the comment that she had never been able to feel it.

Inspection of the vulva showed a healing 2nd degree laceration with some separation in spite of previous suturing. The urethra appeared to be normal. Digital examination showed the vagina to be filled by a rounded mass with a rather rough surface somewhat suggestive at first of the coarse side of the placenta. Further palpation demonstrated that the mass protruded from the cervix which presented a constricting ring-like form. Upon bimanual manipulation a funnel shaped depression at the site of the fundus could be felt through the abdominal wall and appeared to be continuous with the vaginal mass.

A diagnosis of inversion of the uterus was made, and it was our opinion, based upon the history, and the dull gray color, fragility and edema of the mass, that intravaginal inversion occurred right after labor and protrusion at the vulva when the patient strained at the lavatory. The mass was painted with merthiolate, lysol douches ordered, and intravenous glucose begun.

On the following day, under general anesthesia, the inverted fundus was reduced by the procedure shown in the illustration. This was accomplished by inserting the fingers between the cervical ring and inverted fundus, gradually dilating this constricting ring while an assistant dilated the funnel-shaped depression through the abdominal wall, and gently pushing the mass up through the cervix. The entire procedure was difficult because of the firmness of the constriction and the fragile edematous structure of the fundus. After reduction a retention catheter was inserted and the vagina was packed with gauze which was removed at the end of 18 hours. Examinations then and later showed a contracting cervix with no tendency towards recurrence. Ergotrate was given over a period of several days. The highest post-operative temperature was 102° on the 1st day. The patient began to void on the 3rd day when the retention catheter was removed. The backache began to improve immediately. Only slight vaginal bleeding followed reposition of the uterus. Seven days after the operation the patient was permitted to get up and she was discharged on the 10th day. A recent vaginal examination showed the cervix practically normal and the fundus in the first degree retroversion. The patient's general condition has gradually improved and she still continues to nurse her baby.

DISCUSSION

Esther C. Wallner: The subject of inversion of the uterus is of interest and importance to anyone who attends a woman in labor. The case of Doctor Hancock has given you an excellent idea of what the condition is. The fact that it is so important is borne out by the statement Doctor Hancock made that early observers stated it occurred only once in 150,000 cases, while Dr. Stander at New York Lying-In Hospital reported that condition was found in 1:4000 cases. We have had two in the City Hospital in the last five years.

If your patient is in shock, and even if you have made a diagnosis of inverted uterus, the shock should be treated first as treatment will result in death if instituted too soon.

Irvin Abell, Jr: Inversion of the uterus is a very rare condition being in a general practice encountered in one in 100,000 cases; in a general surgical practice, based upon the records in our office, once in 17,000 major surgical procedures; and in an obstetrical practice, based upon the files of the Louisville City Hospital, once in 7,000 deliveries. From our files there are two cases and from the records of the City Hospital are the two already mentioned by Dr. Wallner. Eighty-five per cent of all Uterine Inversions are acute and occur during the 3rd stage of labor. Into this group fall three of the four cases.

Our first case was a 15-year-old colored primipara who denying that she could be pregnant spontaneously delivered her child while walking about the room. The cord being short was broken as the child fell to the floor. When the placenta did not follow, her mother pulled upon the cord until it did appear. Profuse hemorrhage occurred; and at the end of four days when sepsis developed my father was called in consultation. A vaginal hysterectomy preceded a stormy but successful convalescence. This case emphasizes the role assumed by a short cord and traction upon the cord in the production of this condition. It points out the important facts that hemorrhage which is always a complicating factor is, when not properly handled, providing the patient survives, further complicated by puerpural sepsis. The first case related by Dr. Wallner is one in which this complicating factor of hemorrhage was so severe that in spite of early diagnosis and prompt efficient treatment proved fatal. The probable influence exerted by manipulation of the fundus is also suggested. The other case referred to by Dr. Wallner is of unusual interest. There is nothing in the handling of the delivery to suggest the etiology. The uterus was replaced in the Delivery Room and still Puerpural Sepsis developed on the third post-partum day. The patient recovered to have another normal pregnancy, the baby being spontaneously delivered without any uterine difficulty. In examining these cases as a group one's thoughts can not help from being stimulated by the fact that all three patients were primiparas. Fifteen per cent of all inversions are chronic and of this group our last case is an example. A 40-year-old white multipara presented herself to us complaining of a mass in the vagina. This mass proved to be a pedunculated uterine fibroid with a completely inverted uterus. A successful vaginal hysterectomy was performed. This case focuses our attention upon the mechanical elements involved in the extrusion of a pedunculated fibroid or carcinoma of the fundus through the cervical canal. It particularly indicates that in this group because of the anatomical differences between the pregnant and non-pregnant uterus neither severe hemorrhage nor infection are to be expected as complications.

Acute inversion of the uterus is then a rare condition occurring in the obstetrical files of the Louisville City Hospital once in every 7,000 deliveries. It is a condition of importance, because early diagnosis and competent care is essential if the patient's life is to be saved and the child bearing function of the uterus preserved; because, hemorrhage is always a complicating factor which, if survived by the patient, will usually be succeeded by puerpural infection; and because the mortality, which is reasonably low in cases treated early, ranks at the present time with that of acute pancreatitis and subcutaneous abdominal wounds. While it was my impression that the mortality ranged from 20-30 per cent, I should prefer to believe that the figure of 14 per cent offered by Dr. Wallner was correct.

Nora D. Dean: My experience with an acute inversion of the uterus was during my internship at the Worcester Memorial Hospital, Worcester, Mass.

The patient, an elderly primipara, went into spontaneous labor, had a relatively short labor. There was some difficulty in delivering the placenta and there had been some tugging on the cord. The cord was comparatively short. The uterus with the placenta attached was outside of the vagina. Without any attempts manually the placenta was detached spontaneously. The sinuses of the uterine wall looked like artesian wells. Personally, I did not know what to do except to try the methods given in the textbook. Not being a skilled person in replacing inverted uteri, my efforts failed. The patient was given 1 c. c. of pituitrin, and the obstetrical and surgical staff were called. The shock was treated and the bleeding checked by replacing the uterus into the vagina and packing the vagina. There were many persons typed for blood transfusion and found it practically impossible to match the blood. Within the next 24 hours the uterus was replaced and the patient transfused. Unfortunately, in a very few hours following the transfusion the patient had numerous petechial hemorrhages over the body, eyes, nose and mouth. The patient soon expired.

I believe the patient died from incompatible blood, and perhaps the incompatibility of blood was due to an unrecognized blood dyscrasia.

I believe that everyone that participates in delivering a baby should emphasize the fact that the uterus following delivery should be returned high into the abdominal cavity by making pressure over the symphysis. In this way, one will know the uterus is not inverted, as the uterine ligaments are so taut in an inversion that they will not allow the uterus to be replaced. It seems much more plausible to lift the uterus into the abdominal cavity than it does to drive it into the bony pelvis and vaginal vaults.

J. Duffy Hancock, (in closing): I want to thank those who have participated in the discussion and in closing to emphasize two points: first, one should always bear in mind the possibility of this condition and secondly, remember that the inversion does not have to be reduced immediately if the patient's condition is too unsatisfactory. Check the hemorrhage by packing, treat shock if present, and then after the patient rallies correct the condition.

After the patient has recovered from shock, attempt to dilate the funnel cavity from the peritoneal surface after making a long median abdominal incision. I think that it is much safer to try the vaginal method first, and that it would remedy most cases.

Female Bladder and Urethra.—In a study of 395 female patients with disturbances (250 in the gynecologic clinic), Fetter and Lingen observed that the bladder was entirely responsible for the symptoms in forty and the urethra in fifty-six cases. Both organs were partly responsible for the symptoms in 189. Lesions of the generative organs were responsible etiologic factors in thirty-nine cases. Other organs not connected with urinary and generative tracts caused the symptoms in nine. The most prominent symptom was frequency of urination. For a correct diagnosis it is necessary to obtain a thorough urinary and gynecology history and a catheterized specimen of urine.

THE COMMON COLD*

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Louisville.

The common cold assumes a most important position in the morbidity rates of all civilized communities. Observations on different groups show the tendency for recurrent attacks of the common cold to occur on the average of two to three times a year. These attacks cause many children to be absent from school during the year while adults suffer a considerable loss in working time and efficiency. The common cold is not a specific disease entity and a definition is difficult since it may resemble other conditions such as allergic rhinitis or paranasal sinusitis. In allergic rhinitis numerous eosinophiles are frequently present in the nasal discharge differentiating it from the common cold. In paranasal sinusitis we find a preponderance of neutrophiles or lymphocytes in the later stages. The common cold can be described as an acute disorder occurring in epidemics more frequently in winter and being more serious and widespread in the temperate zones than in the tropics. This disease has a sudden onset with rhinitis, sneezing, irritation of the throat with little or no fever.

It is not unusual to see a parent with a common cold and one of the children developing either a tonsillitis, adenitis or otitis. During the course of the year several epidemics occur each differing from the other, yet the manifestations are almost constant in each one. In one epidemic the disease remains localized in the nasopharynx, complications being unusual while in another epidemic we see a marked prevalence of complications such as otitis media, adenitis, tonsillitis or broncho-pneumonia. It is very likely that these epidemics vary due to the nature of the virus or the type and virulence of the secondary invaders. Tonsillitis and adenitis occur when the streptococcus is present while otitis media is often encountered when the pneumococcus is prevalent. It is difficult to foretell how the symptoms in one person will vary in another individual who comes in contact with him. Complications are far more common in children than adults while in infancy broncho-pneumonia is the complication most dreaded.

Certain individuals are more susceptible to colds and have repeated attacks while others remain immune. No satisfactory explanation has been given for this individual susceptibility. Some believe repeated colds are either due to infected lymphoid tissue in the nasopharynx, deformities of the nasal septum or chronic nasal sinus disease. There are numerous individuals with normal nasal passages yet they have repeated colds. The tonsils have been blamed for recurrent attacks of colds, however Kaiser's figures and other statistics show that tonsillectomy produces little if any effect upon the incidence of colds and furthermore that coughs are oftentimes more numerous following tonsillectomy. I believe hypertrophied adenoids are more closely related to repeated colds since obstruction in the nasal passages causes a stasis of the nasal discharge resulting in infection. In these cases adenoidectomy is indicated. Paranasal sinus infection although difficult to clear up doubtless plays a part in initiating recurrent attacks.

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Resistance to colds is a variable factor and for years cod liver oil, the quartz lamp, cold vaccines, etc., have been used to build up resistance against recurrent attacks. The value of these procedures has been questioned since no scientific evidence in their favor has been forwarded. Cold vaccines in general do not diminish the number of attacks but are believed to lessen the severity as well as reduce the number of complications. Kneeland added types 6, 14, 19 and 23 pneumococci to stock vaccine since these organisms are usually found in upper respiratory disease in infants. He believed this vaccine was more effective.

Earlier workers believed colds were due to bacteria such as the Pfeiffer's bacillus, pneumococcus, streptococcus, and Friedlander bacillus. Later it was believed that pandemic influenza was caused by a filter passing virus and that the B. influenza was merely a secondary invader. Little is known about the specific etiology of the common cold; some believe this disease is bacterial in origin, others consider it an allergic condition while the majority of recent workers believe a filtrable virus is the causative factor. In 1914 Kruse was the first to study the possibility of the common cold being due to a filtrable virus. Since then numerous experiments on anthropoid apes and chimpanzees have been carried out by Dochez and Rivers. They were able to produce the disease in these animals by using filtered nasal washings from individuals with acute colds. A recent study of swine influenza, a disease closely resembling the common cold of man is believed due to a combination of a filtrable virus and a hemophilic bacillus. Long and other workers found about 50 per cent of susceptible human volunteers to develop a typical attack of the common cold in 1 to 5 days after intranasal inoculations with bacterial free material from nasal washings of acute cases of colds. In 1934 Kerr and Lagen built an air conditioned room and were unable to transmit colds experimentally among volunteers remaining at rest in a comfortable environment. They used filtered air at a temperature of 70 degrees, flowing 66 cubic feet a minute with a relative humidity of 55.

There is no doubt the common cold is highly communicable since it is spread by contact from one individual to another. An interesting study was made about 5 years ago at Spitzbergen to prove the infectiousness of the common cold. This settlement of 500 people, isolated from the outside world is free of the common cold during the seven month period that the harbor is frozen. As soon as the harbor is free of ice and visiting boats arrived, the natives came in contact with the visiting traders. Within 2 to 3 days, the natives developed typical acute respiratory infections with sneezing, coughing and nasal discharge. After the epidemic subsided and the harbor froze again the natives remained free of colds during the following winter. A study of the bacterial flora of the upper respiratory tract of the natives during the epidemic showed the presence of streptococci, pneumococci, and influenza bacilli. After the epidemic subsided, there was no appreciable difference in the nasal flora. This observation favors the virus origin of the common cold as well as its infectious nature.

The treatment of the common cold consists first upon isolation of the patient. There is no better therapy than bed rest, especially if there is any fever. The room should be warm and comfortable, fresh air allowed to come in from another room. A tepid sponge bath and saline enema is indicated where the temperature is unusually high. Violent cathartics are unnecessary, and perhaps harmful to the patient. Opium or its derivatives is probably the best drug of choice. Codein and papaverin in combination have been widely used in the past few years and give the patient rest and comfort without producing nausea or vomiting. Acetyl salicylic acid and Phenacetin are likewise valuable drugs to relieve discomfort especially if any fever is present. Where the fever persists repeated examinations of the ears and chest should be made. There is considerable difference of opinion regarding the local treatment of the nose, some favor nose drops while others prefer to leave the nasal passages alone. As long as there is free drainage of the discharge, it is not advisable to interfere with its normal passage. The use of mineral oil drops is not recommended since lipoid pneumonias have followed their vigorous instillations. Silver preparations should not be used over extended periods as there is a danger of argyria developing. Normal saline irrigations of the nostrils if used gently give considerable relief where the mucus is thick and tenacious. The croup tent gives excellent relief when the infection spreads to the larynx.

In conclusion we can state that the common cold is a highly communicable infection probably caused by a filtrable virus and that the complications are due to secondary invaders.

There is an individual susceptibility to colds. Immunity is only of short duration and this may account for frequent recurrences.

Obstruction in the nasal passages and pathologic changes in the nasal passages and membrane also play an important part in the recurrence of colds.

The prevention of the common cold rests upon avoiding exposure and correction of the nasal defects.

DISCUSSION

Joseph D. Heitger: The common cold, or acute infectious rhinosinusitis, is the most important challenge to medicine today. The ravages of its complications pale all scourges, including cancer, into insignificance. Most recent opinion concedes its etiology to both the common pus-forming organisms and a filterable virus, the virus activating the pus-forming bacteria which exist normally on the mucosa as surface saprophytes.

If the common cold is a non-specific reaction to various bacteria, specific immunization can only be hoped for and so-called "cold shots" will be futile in their expected results. A true cold gives immunity lasting from four to six months, the average normal person acquiring two to three colds a year. Some fortunate individuals have a lasting immunity. When a patient is subject to repeated colds we are dealing with a different condition—either acute exacerbations of chronic sinus disease or vasomotor disturbances. Chronic sinus disease is so frequent and so frequently overlooked that confusion in the minds of many is readily understood.

A study of histopathological changes in the nasal and sinus mucosa may do much to clear the confusion that exists today regarding upper respiratory infections, both acute and chronic, and their sequelae. Bacteria are conspicuous by their absence in the tissues.

After a cold the mucosa returns to normal if it was normal before the infection.

Repeated colds in a normal mucosa produce compact fibrosis after a number of years, rendering the patient less susceptible to colds in later life.

Histopathologically, we classify three types of mucosa: normal mucosa, altered mucosa, and diseased mucosa. Vasomotor disturbances are often erroneously called colds. Chronic suppurative sinusitis is not affected by changes in temperature as occurs in chronic hyperplastic sinusitis. When a normal sinus mucosa becomes chronically infected, chronic suppurative sinus disease develops, which may ultimately lead to atrophic rhinitis.

In early life, non-infectious agencies, including allergies and other non-infectious irritants, exaggerate and perpetuate the reticular character of the infantile submucosal fibrous tissue, resulting in a type of mucosa—so-called altered type—favorable to bacterial growth and prone to chronic involvement.

The third type, diseased mucosa, is present in chronic sinusitis. The mucosa is chronically infected, pathological changes being permanent and irreversible. It is subject to frequent acute exacerbations of its condition which are not reinfections. These exacerbations are often confused with the common cold. This diseased mucosa may become reinfected, however, a common cold being then ingrafted on a chronic sinusitis.

The mucosa characterized by edema and thickness in chronic hyperplastic sinusitis, while still immune to acute bacterial involvement, is subject to morbid changes that lead to vasomotor disturbances which closely resemble reinfections and are erroneously called "colds." They are caused by chilling of the body, especially when the humidity is low, producing symptoms of a beginning cold. The response is rapid and disappears equally rapidly after a few hours when the body is warmed. Only rarely does the chemotactic activity of the bacteria manifest itself to color the nasal secretion. These vasomotor attacks repeat themselves frequently and are often confused with the common cold.

Philip F. Barbour: I am glad that Dr. Shaper has so ably presented to us the dangers of the common cold. At both extremes of life it is directly or indirectly responsible for many deaths. The young baby has great difficulty in getting its breath through nares that are obstructed in any way by malformation or congestion of the mucous membrane. They have not learned to breath through the mouth. A small catheter in the nose will allow air to pass but the pressure upon the swollen membranes may be disastrous.

Several years ago when investigating the causes of neonatal mortality I found that great improvement had been made in the mortality rates except in that due to the respiratory infections. The facts were presented to the Louisville Society of Obstetrics and Gynecology and it was urged that doctors and nurses in contact with the young babies should wear mouth masks. This procedure was instituted in the baby wards in the Children's Free Hospital and the City Hospital and in most of the Hospitals in the city. It has certainly decreased the number of colds and cross infections. I believe a physician with a cold himself should wear a mask when in contact with young babies or at least guard against transmitting the infection to them. Extension of infection from the nares to the trachea and bronchi has practically no limit in babies and often results in broncho pneumonia. The adult usually checks the inflammation at the third division of the bronchi.

Intense cold weather does not necessarily produce infection in the nose. Dr. Nansen after spending three years at the North Pole without any of these infections, caught a severe cold upon his return to Copenhagen.

When it has been determined whether the cause is bacterial or virus we will be in a position not only to treat these colds but also to prevent them. Certainly fatigue predisposes to infection. Sudden changes in temperature and humidity are also predisposing causes. Over eating especially of sweets lowers the resistance of the lymphatic tissues of the nose and throat. For the acute attack giving enough alkali to produce an alkaline urine and administration of camphor water every hour and unloading the intestinal tract seems to afford about as much relief as any other line of treatment. It is particularly important to secure drainage of the nose as it prevents sinus involvement with its resultant persistence of symptoms.

I am rather inclined to believe that the administration of oral vaccine has been of benefit to a number of children this past winter.

SOME TRADITIONS AND RESPONSIBILITIES OF THE MEDICAL PROFESSION*

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It is through the perspective of the past that we can best view the present and study the potentialities of the future. The past of medicine is particularly rich in traditions of self-sacrificing service and search for truth. American medicine, unfettered as it was in the beginning by medieval conceptions, stimulated by the spirit of creative enterprise springing from the development of a virgin country, and compelled by the necessities of pioneer conditions, has won traditions richer in achievement, perhaps, than any other continent has gained in a like period of time. We must remember that the birth of America and the renaissance of medicine—the New Enlightenment, as Sigerist terms it—were all but coincidental in occurrence. It was a brief hundred and fifty years earlier that Boccaccio had so graphically described the pestilential plague of Florence, and European medicine, even as practiced by educated physicians, was nearly as impotent as in Boccaccio's time. Light began to pierce the cloud of empiricism. Galileo was heralding a new conception of science and the scientific method; advances were being achieved in the natural sciences; chemists and physicists were gaining new knowledge of natural processes. Medicine, for a time, seemed loath to emerge from its shroud of the dark ages and, holding fast to Galenic traditions, left a chasm between scientific knowledge and its application. With the coming of Thomas Sydenham and the advent of Herman Boerhaave, who was to early European medicine what Osler later became to American medicine, the spirit of scientific observation was to triumph over philosophic speculation. Medicine had cast its shroud of medieval tradition and emerged into the bright light of science where proved principles were to supplant blind empiricism.

It was at this propitious period that American medicine experienced the early vicissitudes of its birth. Beginning, as may be expected, with the rough and ready methods of the pioneer untrained in either the art or science of medical practice—there were then almost no educated physicians in America—it was to raise itself to a position of world leadership in surprisingly few centuries. In the beginning, the priest and the provincial governor were the sources to which the early settler looked for medical service. Thus we find the deacon Samuel Fuller, who came with the Mayflower, rendering medical service as well as spiritual consolation. A little later John Winthrop, the founder of Boston, was administering to the medical needs of his community and, interestingly enough, received from a friend in London—one Dr. Stafford—not only essential advice on therapeutics, but perhaps the first expression of a code of ethics in American Medicine. Said Stafford in his letter: "No man can with a good Conscience take a fee or reward before ye partie receive benefit apparent; and then he is not to demand anything, that shall be so given him, for it comes from God.

"A man is not to neglect that partie, to whom he hath once administered, but to visit him at least once a day, and to medle with no more, than he can well attend. In so doing he shall discharge a good Conscience before God and Man."

This was not an illogical but in reality a very proper beginning of the medicine of our country, for the clergy and the governors were leaders of thought. It is, indeed, fortunate that so vital a human service began under these auspices rather than under the guidance of the ignorant charlatan, for truth and honesty thus early became binding tenets of medical faith.

A little later was to come the brilliant parade of physicians educated in the best of knowledge that the science of medicine in Europe afforded. Beginning with but few precedents and no background of experience, the very pressure of necessity was to force many of these early pioneers into positions of leadership, not only in the practice of medicine, but even more particularly in the training of other physicians by the organization of medical education. First, as we know, came a beginning through the praeceptor system, and then John Morgan pioneering with Benjamin Rush in bringing medical education to university status. Even the earlier praeceptor system made its contribution, for this was the method of Hippocrates where the student learned at the feet of a master and combined instruction with clinical and therapeutic observation, whereas in Europe instruction was then largely confined to theory. Who can doubt that this approach, taken together with the fact that here no such sharp contrast between medicine and surgery existed as in Europe, was responsible for much of the contribution America has made in the conversion of medicine from a Craft to a Science?

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*Address before the League of Christian Physicians, Kentucky State Medical Association, Richmond, September 12, 1937.

So was the bridge builded between the medicine of the Old and that of the New World. Such was a time when leaders of lay thought, for example Cotton Mather and Benjamin Franklin, stimulated medical thought and were in turn stimulated by it. We could profit in these times by freer and more objective interchange of opinion and council between lay and medical leaders—interchange free from the passion and prejudices of a period and guided by the perspective of experience and achievement in planning for the future.

The scene shifts to a Kentucky farm in Motley's Glen. Ephraim McDowell, born in Virginia but reared in Kentucky, has performed the first successful ovariotomy in recorded history. After a few years two similar successes attended his efforts, but his report was ridiculed as the tale of a backwoodsman. With the indomitable spirit of a pioneer scientist, a little later he reported two additional operations and added the whole field of abdominal surgery to the science of medicine. Truly, the medicine of the New World had begun to come into its own.

Whether by accident or design beyond our comprehension, the next act in this great drama of medical progress likewise is found in a Kentucky setting. The principal role is played by Daniel Drake who, growing up in close contact with the whole out-of-doors as a pioneer settler's family saw it in his time, came to an appreciation of environment that was to serve him well after his study of medicine. It was the genius of Drake that saw the role the great "Interior Valley of North America," as he called it, would serve as the cradle and support of the New World economy. His was the vision to perceive the basic need, first, for an investigation of the relation of environmental circumstances to health and sanitation and, second, for an adequate supply of physicians if the vital resources nurtured in the cradle of the Valley were to be conserved for the upbuilding of a great national economy. It was to these tasks that Drake addressed his boundless energies, and the record of his achievement is written in the history of his country. His was not the dramatic contribution of the surgeon, but rather the gift of the scholar with the prevision of the prophet. His work as a founder of medical schools; in filling nine professorships for five different schools; and in medical education generally, entitles him to distinction of high order. His life was, however, climaxed by publication of "A Systematic Treatise, Historical, Etiological and Practical, on the Principal Diseases of the Interior Valley of North America, as they Appear in the Caucasian, African, Indian and Esquimaux Varieties of its Population." This, too, ranks him among the great as a student and observer of geographic medicine. It is more than the work of either a physician or an epidemiologist, for it deals with practically every phase of research in the study of people, the conditions under which they lived, and the common endemic diseases from which they suffered. Here, then, with this man—a true product of the people of his country, who gained his whole knowledge among his people, and who received no imprints upon his genius from older medical educational systems—may we rest our brief account of traditions won through early achievements—traditions the more compelling because of their brilliance.

What does the past offer in the way of opportunity or impose as obligations for the future? First, I should say, we have the obligation to preserve the spirit of the pioneer which so completely dominated the thought of our professional ancestry. If we have in any particular lost the spirit to serve humanity effectively despite every adversity, it must be recaptured as a dominant force in our personal and professional lives. These are pioneer times, even though our frontiers are economic rather than geographic. We must place the public good before personal profit as truly now as when Stafford counselled Winthrop so to do. We must be ever jealous of our professional integrity and ever watchful that neither medical education nor medical practice is either exploited by the charlatan or led astray by the panaceas of ill-considered philosophies. On the other hand, however, we must be as jealous of the community welfare and the public interest as of professional integrity. The ideal physician administers to the welfare of his community as well as the ills of his patients. We must understand that ours is the primary responsibility for conserving vital resources and view this obligation through an understanding of the whole vitality of a people rather than in consideration of single individuals. To those of you to whom, like myself, statistical expressions bring little but pain, I commend a paragraph taken from Addison's "Vision of Mirza." It is a graphic expression of our problem in the conservation of vital resources as we find it at the several age periods of man, and reads:

"The bridge thou seest, said he, is Human Life: consider it attentively. Upon a more leisurely survey of it, I found that it consisted of three score and ten entire arches, with several broken arches, which, added to those that were entire, made up the number about an hundred. As I was counting the arches, the Genius told me that this bridge consisted at first of a thousand arches: but a great flood swept away the rest, and left the bridge in the ruinous condition I now beheld it. But tell me further, said he, what thou discoverest on it. I see multitudes of people passing over it, said I, and a black cloud hanging on each end of it. As I looked more attentively, I saw several of the passengers dropping through the bridge into the great tide that flowed underneath it: and upon further examination perceived that there were innumerable trapdoors that lay concealed in the bridge which the passengers no sooner trod upon, but they fell through them into the tide, and immediately disappeared. These hidden pit-falls were set very thick at the entrance of the bridge, so that throngs of people no sooner break through the clouds, but many of them fell into them. They grew thinner towards the middle, but multiplied and laid closer together towards the end of the arches that were entire. There were, indeed, persons, but their number was very small, that continued a kind of hobbling march of the broken arches, but fell through one after another, being quite tired and spent with so long a walk."

The repair of at least a few of these broken arches, the closure of many pitfalls that life may be lengthened and that there may be less of suffering during its span—these are responsibilities which become obligations as new or existing knowledge provides the opportunity. If really great achievement is to attend our efforts, it is becoming increasingly apparent that there must be closer integration of these efforts with other programs for human welfare—an integration, for example, extending back into the program of medical education itself. I am inclined to agree with the view of Sir George Newman that "The curriculum of the medical student contains a dozen separate subjects taught all too frequently in water-tight compartments; he is examined on the same basis and must in some degree desert each subject in turn to prepare for the next test; even in practice there is a tendency to early specialization. My submission is that, in spite of certain advantages, this separateness and disjunction must as far as practicable be avoided." More than this is needed, however, for neither the prevention of ill health nor the cure of disease is wholly encompassed by the professional service of medicine. People are in and of their environmental circumstances in a variety of relationships ranging from that of the home to that of the whole nation and to a degree not always appreciated. Particularly is this true with reference to relationships concerning social and economic situations. "Barriers to the attainment and preservation of physical and mental health are interposed or removed as our whole social and economic environment changes in this or that direction. Conservation of health goes hand in hand with sound management of all the resources entering into the creation of usable wealth. In the work of the organization which I serve—The Tennessee Valley Authority—it is apparent that even in consideration of so elementary a matter as water control, on and in the land, we are concerned not only with the tragic drama of catastrophic floods but also with the devastating economic factor of malaria and the wastage of the very soil from which our food, clothing, and shelter are derived. Wisdom and waste in the management of agriculture influences the every day health situation for good or evil in the home, the region, and the nation. As goes the agricultural economy, so, ultimately, go the industrial, commercial, and social economies.

Consider the single question of nutrition, its relationship to the whole of organized community life, and the extent to which it impinges upon the whole of our environmental circumstances. Broadly speaking, as pointed out by Boudreau, our "nutrition is influenced by the soil and its conservation, by agricultural methods, tariff policies, wage scales, industrial conditions, education, and a host of other factors. These matters are concerned with land use adjustments, plant foods, the prices of agricultural products, and indeed, with the whole economy of communities and regions.

The prevention of disease is but the negative phase of health conservation. We must study the cause of health, the relation of cure to prevention, and remember that positive health must be so built into personal and community affairs as to extend its influence throughout the life-span. "With wasting lands, with increasing concentration on single economies, go the attendant evils of unbalanced and inadequate nutrition, rural slums, and increasing exposure to health hazards. Then the declining economic level extends to dependent industrial and commercial centers and the vicious cycle is completed from wasted physical resources to wasted vital resources and back again to the starting point."

These considerations point out the need for the physician to interest himself in the whole of community life, to extend his consideration to problems which affect health as they grow out of environment, whether it be that of community or that of the family, whether it be physical or psychic. Robinson, in "A Study of Hospital Patients, with Special Reference to their Social and Personal Problems," has recently pointed to "the need of greater consideration of the patient as a total individual in order to gain better understanding of emotional disturbances as related to illness . . ." Newman says, "If medicine is to be made a powerful controlling factor not only must the various branches of medicine be integrated but it should be recognized that the chief manifestations of disease bear intimate relation to each other; and the treatment of one is the prevention of others. In a score of different fields curative medicine should be the base of prevention and treatment the genesis of immunity," And further that, "As regards preventive medicine it is rather rearrangement and readjustment of medical practice. There is machinery, though not perhaps in all cases appropriate machinery, and there is knowledge. But the two are not together brought to bear on the focal point . . ."

Students of medicine and of preventive medicine are with increasing frequency pointing to the widening horizon in our opportunities for both the prevention and cure of diseases. In studies preliminary to the formation of the public health sections of the Social Security Act, the Committee on Economic Security said "A logical step in dealing with the risks and losses of sickness is to begin in preventing sickness so far as it is possible," and showed that in spite of the low general death rate reported in the United States for 1933, nearly a quarter of a million deaths occurred from diseases classed as preventable. Of this number more than 170,000 were caused by the three diseases—pneumonia, tuberculosis, and syphilis. You and I know that if all of our existing knowledge could be effectively applied, death and disability from these and many other diseases could in some instances be materially reduced, in others almost wholly prevented. These facts, and the opportunities growing out of them, I think, impose obligations which must receive our most serious consideration—obligations not to set about the solution of problems single handed but to consider them in their relationship to the whole of the community and public service, the total individual and to the organization of a partnership of effort through which not just the science of medicine but all of science may serve humanity of this and generations yet unborn through an effectively articulated program of action.

It must be obvious that the solution of many of the situations to which I have referred require the joint effort of many agencies. Increasingly, I think, must we bring to our aid the service of the social scientist, the agricultural economist, the educator, the home economist. All of these and many other services exist but have not been brought into the close partnership with the physician and the worker in preventive medicine that would accomplish the ideal referred to by Sir William Osler when he said: "From over-specialization scientific men are in a more parlous state than are the Humanists from neglect of classical tradition. The salvation of science lies in a recognition of a new philosophy—the scientia scientiarum, of which Plato speaks: 'Now when all these studies reach the point of inter-communion and connection with one another, and come to be considered in their mutual affinities, then, I think, and not until then, will the pursuit of them have a value.' "

As we study our problems in the perspective of history, we find that periods of extension alternate with periods of consolidation and integration. It seems to me that the most obvious lesson we have to learn from the traditions of American medicine is that the present constitutes a period in which we must review the meaning and destiny of medicine, simplify its application in so far as it may be simplified, and integrate its practice so far as need be with the practice of other sciences relating to the public welfare. Should we find this possible through coming generations, I think we may be confident of the soundness of Sigerist's prediction when he says: "The science of medicine knows no political boundaries. Its discoveries fly like sparks from land to land and over the ocean itself. But the conditions for creative development, that great sum of material and imponderable factors which bring the seed to flower, are seldom found simultaneously in one country. Padua brought forth Vesalius: witnessed the beginning of clinic instruction; gave the decisive stimulus to Harvey; and finally became the working-place of Morgagni. After 1700, Leyden, with its Hermann Boerhaave, was the post-graduate school of European medicine. Scotland and England followed. The center of gravity continued to shift: to Paris, to Vienna, finally, about the middle of the last century, to Germany. Almost all the important European countries have in their time been the leading voice in the concert of medicine. Whose turn will it be next? To the historian it must seem that it will be America's.''

I believe with everlasting faith that the traditions of American medicine and the ethical considerations growing out of these traditions will gain for us the understanding and eternal tolerance necessary in building our pathways to new horizons of service. May it be our privilege to contribute increasingly in the conservation of life's most precious of all possessions—physical, mental, and moral health.

CLINICAL APPLICATION OF SEDIMENTATION RATE, OR SUSPENSION STABILITY*

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Pepper and Farley state that the observation of what is known today as sedimentation rate is the oldest laboratory procedure in the study of blood. During the centuries of venesection as a therapeutic agency, a blood was termed buffy or sizy when a thick fibrinous layer formed, this being sufficient indication for bleeding. So far as I know no anticoagulant was added at that distant period.

Hewson in 1772 learned that increased buffiness of the blood could result from delayed coagulation but that increased sedimentation of red cells was a more important cause. After reaching this stage of development interest in suspension stability waned and disappeared.

In 1918 Fahreus searching for a test for pregnancy took up the investigation of sedimentation and directed his attention on the rate of fall of erythrocytes rather than the buffy coat which was the result of sedimentation, measuring the distance of the fall of the red cells in a given time this investigator found that the same condition which presented an increased size or buffiness of blood also presented an increased rate of sedimentation. From this came a clinical test of great value, but one with many limitations, because of a lack of specificity.

The sedimentation test consists in the measurement of the speed of separation of erythrocytes from plasma in blood to which an anticoagulant has been added.

The processes involved in this reaction are complex and have never been completely explained.

Factors which affect clumping and viscosity influence the velocity of settling, "The ultimate cause of increased rate of sedimentation of cells is said to be dependent upon the degree of cellular destruction in the body." (Kilduffe).

Since there is no standard method for performing the sedimentation test, reported results can not be comparable because of the difference in the methods used.

Sedimentation tests are worked on two principles:

(1) That of Linzenmeier in which the distance of falling is the fixed quantity and the time is variable.

(2) That of Westergren in which the time is the fixed quantity and the distance of falling is variable.

Cutler combined both of these in a graphic method which register the velocity of the fall of red cells at short intervals. Asserting the changes which occur in the velocity from time to time is one of the valuable indications of the test.

Method of Procedure: Cleanliness and dryness of apparati are necessary. The Linzenmeier method is only one described in this paper as it is more widely used and familiarity with this procedure can be easily applied to other methods. The greatest objection to the Linzenmeier method is the length of time required for observation especially when the S. R. is delayed. The objects required are three:

(1) A Linzenmeier tube 70 mm long; 5 internal diameter.

(2) A tuberculin syringe.

(3) A sterile solution of 5 per cent sodi-citrate, fresh every two weeks, stoppered with a rubber diaphragm in a one ounce bottle. This is small and convenient and affords a surface against which the Linzenmeier tube may be held with an elastic band.

Sodi-citrate 0.2 is drawn into the tuberculin syringe, then the syringe is filled with 0.1 cc with blood from the patient's vein. The syringe is then inverted and reversed several times to insure a uniform mixture and then is introduced into the Linzenmeier tube by expressing the blood slowly along the side of the tube and the rate of fall of the red cells carefully observed, recording the time of filling the tube and the time the column of red cells reach the 18 mm mark. One hundred and twenty minutes is estimated normal time. As a general rule when the sedimentation rate time is shortening, the patient is growing worse; when the sedimentation rate time is lengthening, the patient is getting better.

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*Read before the Jefferson County Medical Society.

Increased rate of sedimentation is found according to Pepper and Farley in all conditions with tissue breakdown or the entrance of foreign protein into the blood stream and is also found in all infections, malignant neoplasms, after wounds, fractures and wasting diseases as diabetes mellitus, anemia and injection of foreign proteins into the blood stream.

Decrease of sedimentation rate is found in dehydration, polycythemia and when the plasma proteins are above normal.

Sedimentation rates are influenced by the method used as the Westergren, with readings at 15 and 45 minutes, anything over 15 mm in 45 minutes is definitely pathological. A rate of 15 to 30 in 45 minutes is a slight increase, 30 to 50 mm a moderate increase and 50 to 100 mm, a severe increase.

Linzenmeier method: Normal persons have a sedimentation time of over two hours, that is the column of red cells require two hours and over to reach the 18 mm line. using 0.2 5 per cent sodium citrate and 0.8 of venous blood well mixed and deposited in a Linzenmeier tube 70 mm long and 5 mm internal diameter.

The method used should always be stated after the reading.

Sex, age, pregnancy, menstruation and anemia are factors to keep in mind for satisfactory reading.

Griffin states the rate increases progressively with each month of pregnancy, until at the ninth month is five times that of a non-pregnant woman.

The rate is more rapid in the female than the male and is increased in the female by menstrual function. The normal new born infants present an average of fifteen minutes compared with a normal two hours in an adult.

The sedimentation test is of value in: (1) Differentiating between inflammatory and non-inflammatory processes. (a) in the chest; (b) in arthritis; (c) in the genito-urinary system.

(2) Indicating the course and value of treatment in chronic infectious processes. (a) in tuberculosis; (b) in peptic ulcer; (c) in rheumatic arthritis.

(3) Differentiating between benign and malignant lesions.

(4) Indicating pregnancy in the absence of infection or malignancy.

Bannick's three principles: (1) A definite increase in the rate of sedimentation of the blood always reveals the presence of disease, but, with exceptions noted, of no particular disease.

(2) The converse is not true—a normal rate of sedimentation does not mean that the patient has no disease.

(3) The rapidity of sedimentation gives some measure of the intensity of the disease, and when the level has been established in a given case, it provides a measure of the progress of the disease in that particular case.

LEA'S SUMMARY

Lea's summary is as follows:

(1) The sedimentation test is a simple office procedure.

(2) It is a valuable instrument as an aid to clinical judgment in determining prognosis, and to a slight degree in differential diagnosis.

(3) It is also an important determining factor in establishing the progress of a disease.

The sedimentation rate has been worked out not only as applied to the pathology of the anatomical divisions of the body, but to localized sections such as cerebral disorders.

Singer and Edel studied the blood sedimentation speed of 115 patients with cerebral disorders. Their conclusions were verified by operation or definite clinical manifestations. The reaction permits a differentiation between:

(1) Hydrocephalus with normal rate and a cerebral tumor with a slightly accelerated rate.

(2) Serous meningitis with normal speed and cerebral tumor.

(3) Acute encephalitis with greatly increased rate and cerebral tumor.

(4) Hemorrhagic pachy meningites with moderate increased rate and cerebral tumor.

(5) Benign tumors as meningioma and glioma present moderate increased speed while carcinomatous metastasis are accompanied by greatly accelerated rate.

(6) In cerebral arteriosclerosis versus cerebral tumor a greatly increased rate favors the former, but a slightly increased rate is not diagnostic.

GASTRO-INTESTINAL: Majority of gastro intestinal cases are functional in which the sedimentation rate is normal. In cancer the pathology is advanced to an increased sedimentation rate by the time the patient consults the physician as a rule, in which event a complete gastro intestinal X-ray is indicated. In functional cases and a low sedimentation rate the test should be repeated at intervals to detect early malignancy.

In simple ulcer the rate may be normal, but the rate increases in proportion to the activity of the ulcer.

Symptomatic cures of the peptic ulcers with high sedimentation rate are potential perforations.

Sixty patients of demonstrated carcinoma of the digestive tract equal 88 per cent sedimentation greatly increased, 12 per cent normal.

120 patients with gastric ulcer or gastritis equal little acceleration in 108 cases, 12 equal considerable increase, several of which were due to inflammatory processes elsewhere.

3,000 readings in 2,000 cases of appendicitis (catarrhal-suppurative or gangrenous) were uniformily normal.

In all other acute abdominal conditions the sedimentation rates were uniformily abnormal.

In extra abdominal conditions simulating acute conditions of abdomen were consistently abnormal.

Coronary Thrombosis: In myocardial infarction and coronary thrombosis Bickel relates that sedimentation rate is increased in several days after coronary thrombosis returning to normal in several weeks—affording an index as to when the patient should return to activity.

Christenser of Copenhagen states the sedimentation rate is great diagnostic and prognostic value in coronary thrombosis and myocardiac infarction rising a few days after the disturbance, a constantly rising rate is unfavorable while a gradual decrease is favorable prognostic indication.

Gynecology: Postpartum infection-postabortal infection, pelvic abscess-wound infection and postpartum infection with peritonitis, a high leucocytosis, 12.000 and over, a temperature above 100 and sedimentation rate of less than 30 minutes.

Localized collections of confined purulent material as abscesses, pyelitis and old pelvic inflammatory masses, moderate leucocytosis, temperature under 100 and sedimentation rate over 30 minutes as a rule.

Carcinoma of uterus, a rapid sedimentation rate without temperature or leucocytosis.

Tuboovarian inflammation, a rapid sedimentation rate.

Ectopic gestation, slow sedimentation rate.

26 cases of uncomplicated uterine fibroids, sedimentation rate of 76 minutes.

10 cases of fibroids complicated with adnexal diseases, 41 minutes, temperature and white cell count normal in both.

Requiring normal sedimentation rate before pelvic operations where indicated will reduce mortality and morbidity.

Neurosis: Range observed 157 patients with functional neurosis finding the blood to contain a low globulin content and a decreased sedimentation rate.

Apparent neurotic patients with an increased sedimentation rate almost invariably present an organic lesion sooner or later.

Tuberculosis: In incipient pulmonary when physical signs, fever and tachycardia are absent an increased sedimentation rate may be the significant indication of the infection and if constantly present for considerable period is decidedly diagnostic and the contrary is quite true in a suspected case of tuberculosis, a repeatedly normal sedimentation rate makes a diagnosis of active tuberculosis highly imparable.

David Davis relates that in many sanatoria in Austria and Germany this test is used as an index of the course of tuberculosis and the patient is not discharged until the sedimentation rate is normal and Wassing makes the comment that the blood sedimentation rate plays the same role in pulmonary tuberculosis that the complement fixation test does in lues.

In collapse treatment the sedimentation rate may afford an index as to the effectiveness of the procedure.

Thiele's observation on 5000 cases of pulmonary cirrhotic non-productive tuberculosis present 85 per cent normal sedimentation rate cirrhotic productive tuberculosis 68 per cent normal sedimentation rate.

Open tuberculosis affords 25 per cent normal sedimentation rate.

Sedimentation rate is closely related to the prognosis, the disease taking a favorable course in all patients in which the sedimentation rate went back to normal, of those patients with a sedimentation rate of more than 5 mm in one hour (Westergren) 75 per cent died in 27 months, those with 21 to 30 mm 20 per cent died in 27 months, those of 11 to 20, 16 per cent died in above time.

Infections: Pertussis is characterized by a cough lymphocyte count of over 10.000 and a normal or sub-normal sedimentation rate.

Polak observed that a rapid sedimentation rate of less than 30 minutes—(Linzenmeier) with temperature and leucocytosis was found in postpartum infection, postabortal infection, pelvic abscess, wound infection and postpartum infection with peritonitis. In cases of rapid sedimentation with moderate leucocytosis and temperature under 100 are found localized collections of confined purulent material as Bartholinian abscess, pyelitis and old pelvic inflammatory masses.

Carcinoma of the uterus is accompanied

by a rapid sedimentation rate without any temperature or leucocytosis.

Taboovarian inflammation present a rapid rate and ectopic pregnancy slow, 1 1-2 hours or more.

Polak also reports 26 cases of uncomplicated fibroids with average sedimentation rate of 76 minutes and ten cases of fibroids complicated with adnexal inflammation with average sedimentation rate forty-one minutes, in both series the temperature curve and white cells were normal.

The mortality and morbidity operations in pelvic infections are greatly diminished postponing operative procedure until the sedimentation rate is normal even though the trinity of pulse, temperature and white cells are normal.

It is well to keep in mind the words of Dr. Harvey Cushing:

"In our present day when so great emphasis is being laid on keeping people well by periodic health examinations and preventive medicine, all this about medical practice may sound very old fashioned. But say what one will, the time inevitably comes to each and every one, now in the best of health, when he must needs cry out for some experienced and sensible doctor who can alleviate if not cure his particular ailments, be they physical or mental; and the kind of sagacity and resourcefulness he will expect and need is less laboratory born than bred of long and sympathetic familiarity with the anxieties and complaints of ailing, damaged, and worn out human beings."

DISCUSSION

Will H. Allen: This test has its merits and also its limitations. The essayist has given us the different techniques in use, most of which are based on the same principles and the results are much the same. One of the most simple is the modification of the Westergren, in which time is the fixed quantity.

One field in which it is certainly useful is in tuberculosis. That seems to be the field in which there is greatest enthusiasm. In going over a patient, if tuberculosis is suspected it seems it can be well ruled out by this test. If the patient was formerly treated for tuberculosis and all clinical symptoms have returned to normal though you still find an increased sedimentation rate, you can rest assured that the patient has not entirely overcome the infection.

Another field in which it seems to be of some value is in abdominal tumors, in differentiating between a fibroid and a possible malignancy, we find that a fibroid will give a normal sedimentation rate and a malignancy an increased sedimentation rate. Also, in suppurative cases, in differentiating a possibly infected tube from a tubal pregnancy, as pregnancy gives no definite increase in rate until after three months and a suppurative condition will show a pronounced increase in rate.

We must bear in mind that the test is not considered diagnostic, neither is it prognostic. It does have value, however, as has been stated but it also has its limitations.

R. R. Elmore, (in closing): I only want to remind the general practitioner, it is a test easily applied, and should be done often. Frequency of the test determines real merit.

THE TREATMENT OF PULMONARY TUBERCULOSIS IN A RURAL COMMUNITY WITH PARTICULAR REFERENCE TO BILATERAL DISEASE*

OREN A. BEATTY, M. D.

Glasgow.

The treatment of pulmonary tuberculosis in any surroundings is a difficult problem; the treatment of this condition in a rural community where no sanatorium facilities are available is more difficult. The technical difficulties encountered do not approximate other difficulties. Oftentimes the general practitioner is only passively interested in tuberculosis and the rural hospital is not particularly fond of admitting tuberculous patients. Most of the enthusiasm for any progressive form of treatment is received from a few of the victims of the disease and some of these are skeptical of operative procedures. When they once get a concept of modern thoracic surgery they are anxious to have whatever procedure offers the most, perfectly aware of and resigned to the dangers of their advanced disease.

The literature is voluminous in regard to the treatment of pulmonary tuberculosis both in sanatoria and in the well equipped ambulatory clinics, but it is relatively sparse in regard to the treatment of this condition in wholly rural surroundings without sanatorium facilities. This report is based upon three years experience in treating pulmonary tuberculosis in a rural community. Some description of the community and the facilities should be in order. Glasgow is a town of approximately five thousand inhabitants and serves a large rural population and territory in Southern Kentucky. The general or community hospital which has a bed capacity of fifty-two, maintains a charity chest clinic. The main highways leading into this town are paved and there are many improved roads over the county and other surrounding counties, but many are unimproved and almost impassible in winter.

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*Read before the Chest Clinic, Sampson Community Hospital.

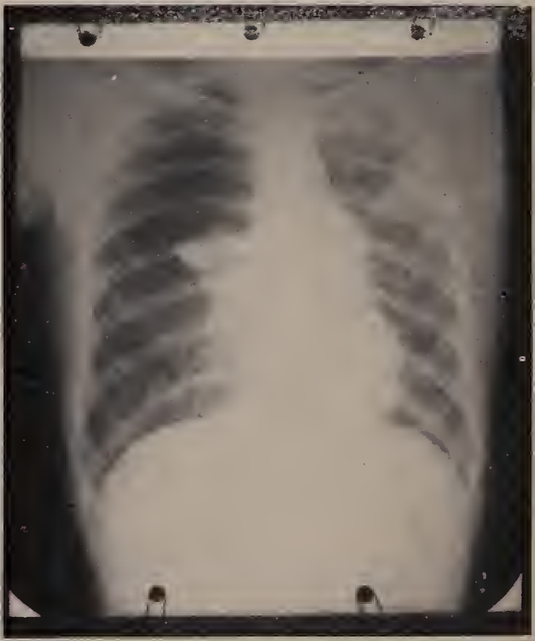
The basic principles in the treatment of pulmonary tuberculosis do not change when the scene of action is changed from the sanatorium to a rural community. Rest, whether surgical or physical, is the best form of treatment. When sanatorium facilities are not available, the complete cooperation of the patient is imperative; and when obtained the results almost approximate those of sanatoria.

In patients with minimal to moderately advanced disease, excellent results have been obtained and small cavities have been closed from bed rest alone. In moderately advanced cases with thin walled cavities phrenic crushing has been used successfully. When the patient has a convenient mode of transportation over improved roads for frequent clinic visits, pneumothorax is the procedure of choice when indicated. If the patient lives a great distance in the country and has to travel over unimproved roads, phrenic nerve crushing may be the procedure of choice, especially if the patient does not have any convenient and comfortable mode of transportation for frequent pneumothorax refills. This may be a new indication for phrenic nerve surgery in suitable tuberculous patients.

It is the cases of bilateral pulmonary tuberculosis that offer a serious problem in treatment. At first thought it was considered necessary to hospitalize all these patients, but their economic status prevented the prolonged hospitalization since there are not sufficient charity sanatoria beds in the state for them. The only other means of treatment is bilateral collapse therapy. The various surgical combinations may be used but bilateral pneumothorax is emphasized. No suitable cases for upper stage thoracoplasty have been encountered in this small group.

Statistics and Case Reports

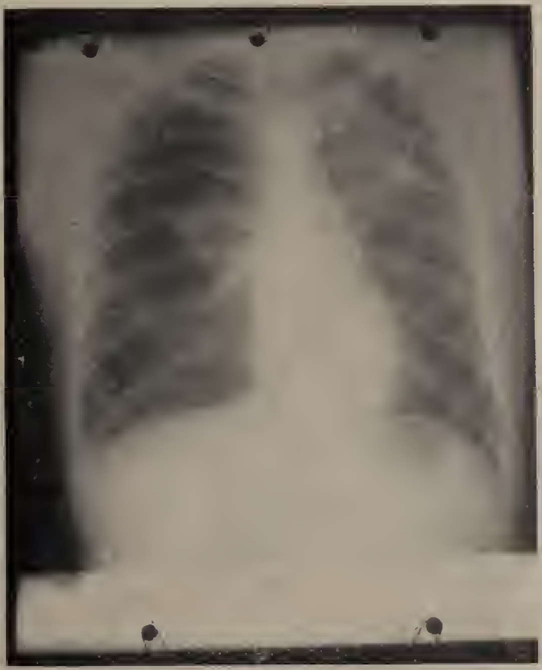
Eleven cases were treated by bed rest alone of which number five were far advanced and six moderately advanced. All six of the moderately advanced cases are definitely improved. Two of the far advanced cases are dead and none are improved. Phrenic crushing alone in bilateral but predominately unilateral disease closed a moderate sized cavity in one case and the patient is classified as arrested at the present time. Two patients had phrenic crushings which were successful but pneumothorax had to be resorted to later upon reopening of the cavities. Four patients had pneumothorax with diaphragmatic and apical adhesions holding open cavities. Phrenic crushing was done later with improvement in three cases. One patient was unimproved. Phrenic crushing in combination with scaleniotomy was done in three cases. In two it was the only treatment indicated and in the other it was done in preparation for an upper stage thoracoplasty. One patient was improved and two unimproved. One patient had pneumothorax on one side with an apical cavity on the other. She had in succession on the other side phrenic crushing, extrapleural pneumolysis with paraffin plombage, and scaleniotomy with phrenic crushing repeated. The paraffin plombage displaced the apical cavity downward and para-vertebrally. Scaleniotomy which was subsequently used did not close the cavity. This patient improved symptomatically but the cavity remained open and she has never been suitable for an upper stage thoracoplasty. Another patient had pneumothorax on the left side closing a large apical cavity. Since pneumothorax was unsuccessful in closing a large apical cavity on the other side due to pleural symphysis, extrapleural pneumolysis was attempted. Before pneumolysis was completed a tear into the cavity developed. The idea of paraffin plombage was abandoned. This patient has not shown further improvement. Eleven patients had unilateral pneumothorax of which number four were moderately advanced and seven far advanced. Three patients have improved; two are unimproved; and six are dead.



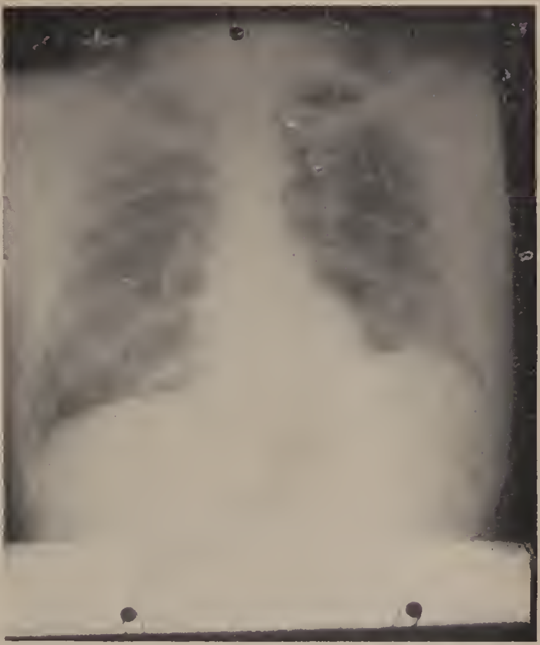
Case No. 1., Fig. No. 1, X-ray of chest two months before bilateral pneumothorax begun.

Two bilateral pneumothorax cases are reported in detail:

Case No. 1. V. A., 16, white farm boy, was first seen August 10, 1935 with bilateral pulmonary tuberculosis but the predominant lesion was on the left with a cavity about 3 cm. in diameter. The sputum was positive. Left pneumothorax was begun August 17, 1935 and closure of the cavity was delayed for about three months by one small string-like adhesion. The patient showed marked symptomatic improvement and cough became negligible with no sputum. After one year the patient was allowed a small amount of exercise. Subsequently he had an increase in the opposite upper lobe lesion with development of harrassing cough, cavity formation, and a positive sputum. The patient retrogressed rapidly and after careful consideration bilateral pneumothorax was decided upon. He was admitted to the hospital for one week and the right pneumothorax was initiated Dec. 31, 1936. He returned to the clinic for refills. His cough rapidly subsided, sputum disappeared, and the cavity closed. Within three months he was weighing more than at any time since the onset of his illness. He is practically an ambulatory patient at the present time. See Figures No. 1 and 2.

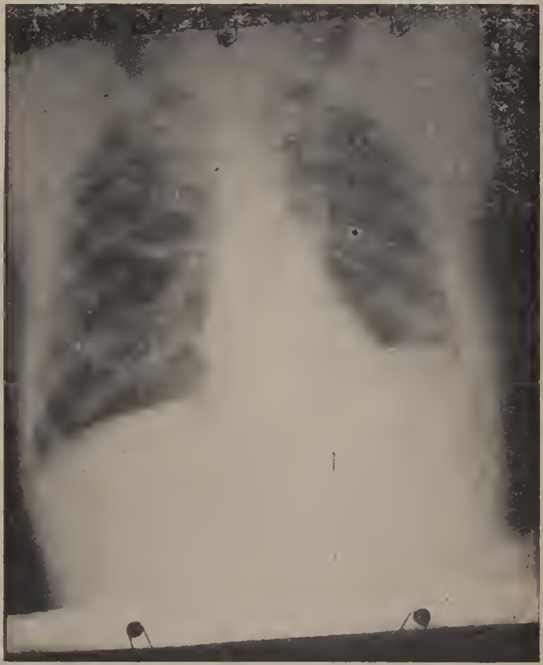


Case No. 1., Fig. No. 2., X-ray of chest two months after bilateral pneumothorax begun.



Case No. 2., Fig. No. 3, X-ray of chest before bilateral pneumothorax begun.

Case No. 2, H. G., 23, colored helper around clothing store was first seen August 27, 1936, with bilateral pulmonary tuberculosis, the predominant lesion being on the left side. The left upper lobe had two large cavities each about four centimeters in diameter and the sputum was positive. Left pneumothorax was begun Oct. 13, 1936 and complete collapse was prevented by adhesions in the extreme apex. The patient improved and the cough and expectoration decreased but the sputum remained positive. The right upper lobe lesion gradually progressed to cavity formation and on March 30, 1937, pneumothorax was begun and a good collapse was obtained. The patient was kept in the hospital one week while the second pneumothorax was being established. He was discharged to return to the clinic for refills.



Case No. 2., Fig. No. 4, X-ray of chest after bilateral pneumothorax begun.

He did not improve following bilateral pneumothorax and the cavitation on the right side became greater but there were no accidents due to the treatments. Right pneumothorax was discontinued May 18, 1937, and since discontinuance he has improved symptomatically. See Figures No. 3 and 4.

The results of the different forms of treatment are summarized in Table No. 1. In Table No. 2 a comparison is made between patients who were referred immediately for treatment after a diagnosis had been established and patients who were referred late for treatment. None of the late group showed any improvement, whereas seventeen of the early referred group showed improvement and seven did not. See Tables No. 1 and 2.

Discussion

It is not the purpose of this paper to discourage the sanatorium care of pulmonary tuberculosis, but rather it emphasizes the lack of sanatoria. These case reports demonstrate that pneumothorax and the various surgical procedures and combinations may play a great role in eradicating tuberculosis far from the surgical centers and sanatoria. The cases and procedures of treatment reported are not unusual, but the fact that these treatments were carried out in a rural community without sanatorium facilities and environment is worthy of report and note. Bilateral pneumothorax has been considered a rather dangerous procedure even in sanatoria. This suggests that it may be carried out in the home, office, or clinic with relative safety in

Table No. 1. Showing results of different forms of treatment.

reatment	No.	MA	FA	Working	Arrested	Improved	Unimp.	Dead
ed Rest	11	6	5	3	1	2	2	3
nrenipnraxis	1	1		1				
hreniphraxis ith Pneumothorax ter on same side	2	2			1	1		
neumothorax ith Phreniphraxis iter on same side	4	3	1	1		2	1	
ombined Phreniphraxis ith Scaleniotomy	3	1	2			1	2	
nilateral neumothorax	11	4	7			3	2	6
neumothorax followed / Phrenic Crushing on)posite side, later Extra leural Pneumolysis id later Scaleniotomy	1		1				1	
neumothorax llowed by Extra- eural Pneumolysis on)posite side	1		1				1	
ilateral ieumothorax	2	1	1			1	1	
)tal	36	18	18	5	2	10	10	9
rcent	100	50	50	14	5	28	28	25

Table No. 2, Showing comparison of results in treatment when started immediately after diagnosis and when begun several months to several years after diagnosis.

	MA	FA	Working	Arrested	Improved	Unimp.	Dead
Treatment started immediately after diagnosis	18	6	5	2	10	3	4
Percent			20	8	42	13	17
Treatment started late after diagnosis		12				7	5
Percent						58	42

experienced hands in both colored and white races. The cases treated by other procedures suggest the potentialities of the surgical treatment of pulmonary tuberculosis in rural districts. The author believes these patients have progressed as well as under sanatorium regimen with the same surgical treatment in such advanced cases. The small amount of exercise, consequent to ambulatory treatment may be a good preparation of the patient for surgery. Each patient was hospitalized a minimum period of time when the second pneumothorax was initiated.

It will be noted from the tables that there were two groups of patients, one that was referred immediately for treatment after the diagnosis was established and one group that had had a diagnosis of tuberculosis previously but had not followed an active plan of treatment for various reasons. A majority of the first group were moderately advanced and all of the second group were far advanced. All of the cases that showed improvement were in the first group. Therefore, not only is early diagnosis important but also the initiation of a planned treatment early after diagnosis.

When it is considered that 53 per cent of the patients reported herewith had poor results from treatment, it is not a particularly gratifying report to make, but on the other hand 50 per cent of the patients were far advanced. In many of these cases there were means of making an earlier diagnosis and many other cases could have been referred earlier for treatment. An "Early Diagnosis Campaign" has not served its purpose unless an early planned treatment is also emphasized. The general practitioner has in his grasp the greatest potentialities for fighting tuberculosis, should he wield them.

I wish to call particular attention to bilateral pneumothorax. Many of these patients had too much disease to treat with bilateral pneumothorax and many of them had bilateral pneumothorax tried unsuccessfully due to pleural symphysis. If bilateral disease is found early enough and when pneumothorax is indicated there should be a period when few or no adhesions have formed and that should be the optimum time for the initiation of pneumothorax. The case report of the white boy illustrates this vividly. He was retrogressing and his prognosis was grave, and yet his disease was relatively young. Soon after the initiation of bilateral pneumothorax he was better than at any time previously. No discomfort, no accidents and no complications have arisen following treatment.

Bilateral pneumothorax was unsuccessful in controlling the disease in one colored patient and was discontinued. The disease appeared to progress more rapidly with bilateral pneumothorax, but there were no complications or accidents associated with the treatments. It may be stated here that five of the cases reported herewith were colored. The four others had unilateral pneumothorax—two of which are dead, one improved and one unimproved.

SUMMARY

1. The treatment of thirty-six cases of pulmonary tuberculosis in a rural community, fifty per cent of which are far advanced, is reported.

2. Various procedures and combinations were used in treatment, but bilateral pneumothorax is emphasized and two cases are reported.

3. Fifty-three per cent of this group of patients are unimproved or dead.

4. One hundred per cent of the patients who were referred late after diagnosis for treatment are unimproved or dead.

CONCLUSIONS

This study of thirty-six clinic patients in a rural community is not of sufficient extent from which to draw conclusions, but it suggests that if tuberculous patients had the advantage of an early planned treatment as soon as a diagnosis is made the various surgical procedures and combinations, particularly unilateral and bilateral pneumothorax, may play a great role in overcoming tuberculosis in the rural districts.

BOOK REVIEWS

CLINICAL ALLERGY: By Louis Tuft, M. D., Chief of Clinic of Allergy and Applied Immunology, Temple University Hospital; Associate in Immunology, Temple University School of Medicine; Director of Laboratories, Pennsylvania Department of Health, Philadelphia. Introduction by John A. Kolmer, M. D., Dr. P. H., D. Sc., LL.D., L. H. D., Professor of Medicine, Temple University; Director of Research Institute of Cutaneous Medicine, Philadelphia. 711 pages with 82 illustrations Philadelphia and London: W. B. Saunders Company 1937. Cloth $8.00 net.

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COUNTY SOCIETIES

Daviess: The following resolutions were unanimously adopted by the Society:

Whereas death has removed from our midst, Dr. Sam P. Oldham, a faithful and beloved member,

Therefore be it resolved by the Daviess County Medical Society:

First: That while we humbly receive and accept his loss as the will of a kind Heavenly Father, we express our deep sorrow at having been bereft of one so valuable and so helpful to his profession and his community.

Second: That we deeply sympathize with his family in their great loss.

Third: That these resolutions be spread upon the minutes of the Daviess County Medical Society and a copy thereof be sent to the Journal and that the Secretary be instructed to furnish a copy of this resolution to his wife and children.

ALICE W. DAVIS, Secretary.

Jefferson: The regular October meetings of the Jefferson County Medical Society were held in the amphitheater of the City Hospital.

The scientific program was as follows:

October 4

1. Arachnidism (Spider-Bite)—Case Report, H. H. Hagan. Discussion to be opened by Morris H. Thompson.
2. Broader Phases of Bronchoscopy. Maurice G. Buckles. Discussion to be opened by Gaylord C. Hall.
3. Some New Developments in the Application of Plastic Surgery to Accident Cases. R. C. Pearlman. General Discussion.

October 18

Trend in Mal-practise Difficulties. J. B. Lukins, M D., Chairman, State Medico-Legal Committee.

Symposium On Traumatic Surgery

1. Relation of Trauma to Hernia. Ira N. Kerns.
2. Newer Treatment of Burns, Robertson O. Joplin.
3. Tetanus and Gas Bacillus Infection. J. Allen Kirk.
4. Symptoms and Control of Traumatic Shock. Herman Mahaffey. General Discussion.

The Memorial Committee reported the deaths of Curt H. Krieger and Lewis Ryans.

The president announced that the library will remain open on Mondays through Fridays, from 8:30 A. M. to 9:00 P. M., continuously, and on Saturday from 8:30 A. M. to 5 P. M.

There being no further business, the Society adjourned to meet the first and third Monday evenings in November.

ARTHUR T. HURST, Secretary.

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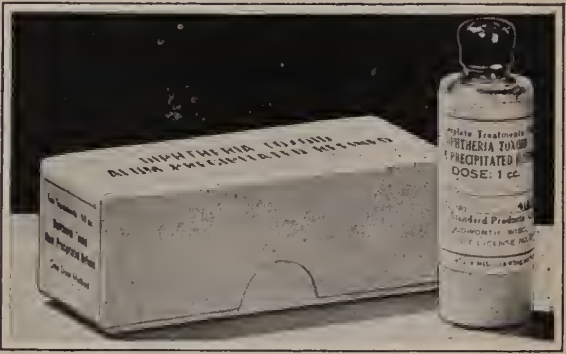

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INDEX NUMBER

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Editorial and Business Offices, 519 Tenth Street. Subscription Price, $5.00; Single Copy, 50 cents.
Entered as second-class matter, Oct. 22, 1916, at the Postoffice at Bowling Green, Ky. Acceptance for mailing at special rates postage provided for in section 1103, act of October 8, 1917, authorized May 25, 1920

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*By H. HOUSTON MERRITT, M. D., Assistant Professor of Neurology, Harvard Medical School; Director of the Cerebrospinal Fluid Laboratory, Boston City Hospital; and FRANK FREMONT-SMITH, M. D., formerly Assistant Professor of Neuropathology, Harvard Medical School; formerly Director of the Cerebrospinal Fluid Laboratory, Boston City Hospital. *With a Foreword by* JAMES B. AYER, M. D. Octavo of 333 pages, illustrated. Cloth, $5.00 net.

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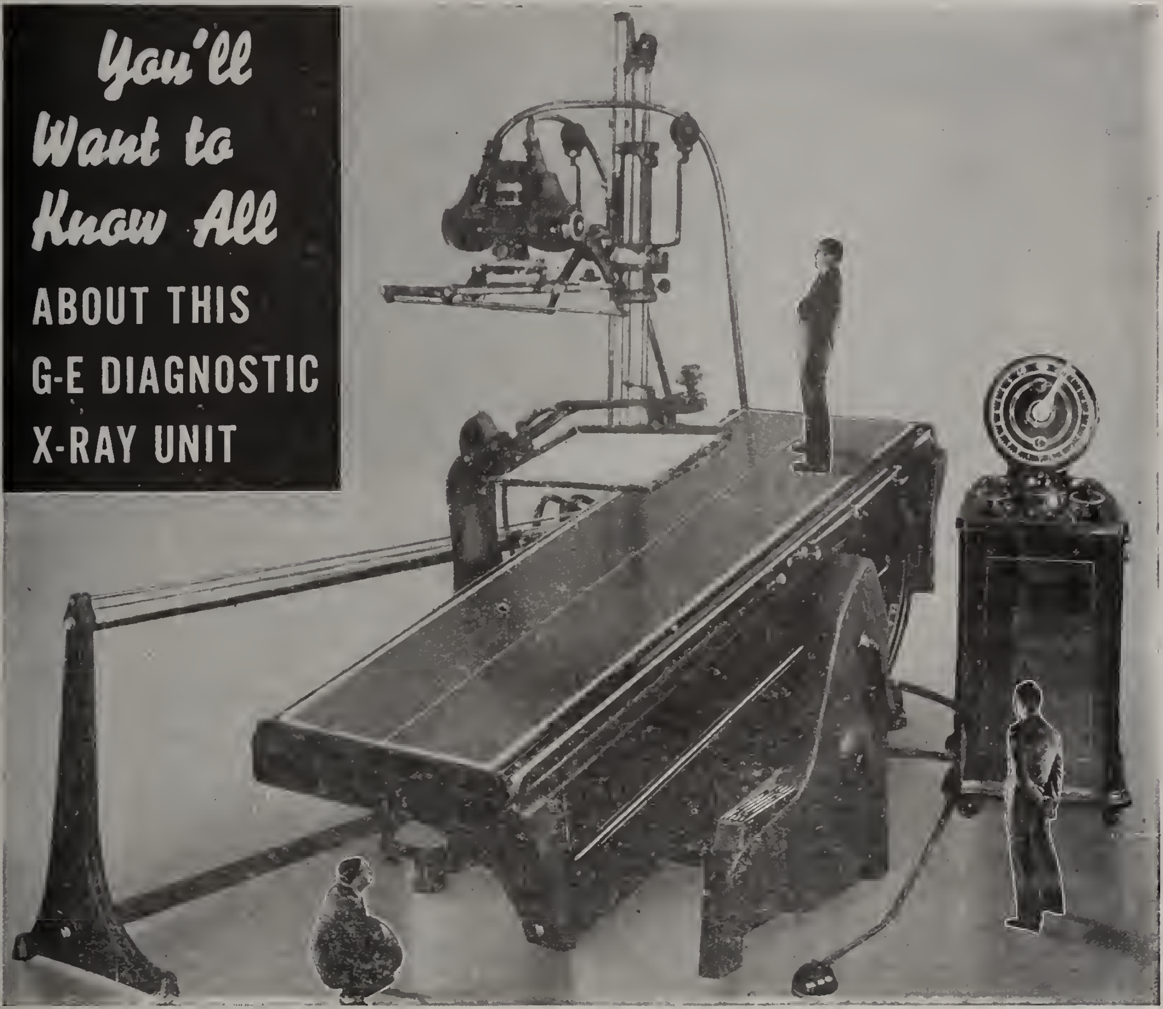

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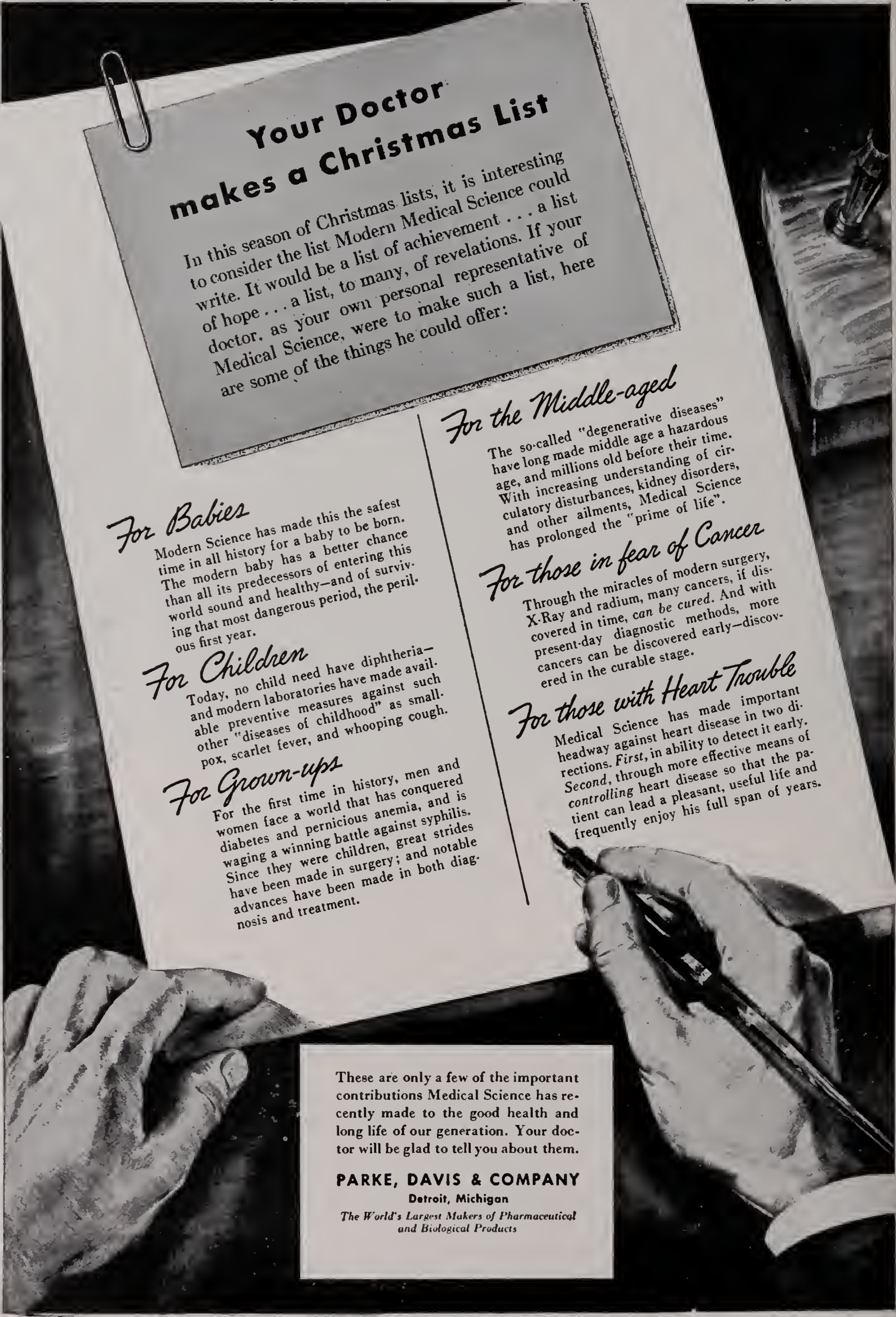

Your Doctor makes a Christmas List

In this season of Christmas lists, it is interesting to consider the list Modern Medical Science could write. It would be a list of achievement . . . a list of hope . . . a list, to many, of revelations. If your doctor, as your own personal representative of Medical Science, were to make such a list, here are some of the things he could offer:

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1a. 1934. J. Amer. Med. Assn. 102, 892.
b. 1936. Ibid. 106, 996.
c. 1937. Ibid. 108, 7 and 15
d. 1937. Ibid. 109, 756.
2. 1931. J. Nutrition 4, 267
1932. Ind. Eng. Chem. 24, 650.
1933. J. Amer. Diet. Assn. 9, 295.
1935. Amer. J. Public Health 25, 1340.

This is the thirty-first in a series of monthly articles, which will summarize, for your convenience, the conclusions about canned foods which authorities in nutritional research have reached. We want to make this series valuable to you, and so we ask your help. Will you tell us on a post card addressed to the American Can Company, New York, N. Y., what phases of canned foods knowledge are of greatest interest to you? Your suggestions will determine the subject matter of future articles.

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Metabolite	*Disease*
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Carbonic acid	Emphysema Respiratory obstruction Myocardial failure Narcosis

CAUSES OF ALKALOSIS	
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Ballard	F. H. Russell	Wickliffe	December 14
Barren	Paul S. York	Glasgow	December 15
Bath	H. S. Gilmore	Owingsville	December 13
Bell	R. F. Porter	Middlesboro	December 10
Boone	R. E. Ryle	Walton	December 15
Bourbon	S. M. Bickman	Paris	December 16
Boyd	C. B. Daniels	Ashland	December 7
Boyle	Geo. M. McClure	Danville	December 21
Bracken-Pendleton	W. A. McKenney	Falmouth	December 6
Breathitt	Frank K. Sewell	Jackson	December 21
Breckenridge	J. E. Kincheloe	Hardinsburg	December 9
Bullitt	S. H. Ridgeway	Shepherdsville	December —
Butler	G. E. Embry	Morgantown	December 1
Caldwell	W. L. Cash	Princeton	December 7
Calloway	Hugh L. Houston	Murray	December 2
Campbell-Kenton	C. A. Morris	Covington	December 2-16
Carlisle	J. F. Dunn	Arlington	December 7
Carroll	J. M. Ryan	Carrollton	December—
Carter	W. S. Hawn	Grayson	December 14
Casey	William J. Sweeney	Liberty	December 23
Christian	Harvey B. Stone	Hopkinsville	December 21
Clark	R. E. Strode	Winchester	December 17
Clay	J. L. Anderson	Manchester	December 14
Clinton	S. F. Stephenson	Albany	December 18
Crittenden	C. G. Moreland	Marion	December 13
Cumberland	W. F. Owsley	Burkesville	December 1
Daviess	Alice W. Davis	Owensboro	December 14-28
Elliott	R. Eugene Wehr	Sandy Hook	December —
Estill	Tracy Wallace	Irvine	December 8
Fayette	John Harvey	Lexington	December 14
Fleming		Flemingsburg	December 8
Floyd	J. G. Archer	Prestonsburg	December 29
Franklin	Grace R. Snyder	Frankfort	December 2
Fulton			December 8
Gallatin	J. M. Stallard	Sparta	December 16
Garrard	J. E. Edwards	Lancaster	December 16
Grant	Paul E. Harper	Dry Ridge	December 15
Graves	H. H. Hunt	Mayfield	December 7
Grayson			December —
Green	S. J. Simmons	Greensburg	December 6
Greenup	D. C. Parmenter	Greenup	December 10
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Hardin	D. E. McClure	Elizabethtown	December 19
Harlan	C. M. Blanton	Harlan	December 18
Harrison	W. B. Moore	Cynthiana	December 6
Hart	S. F. Richardson	Munfordville	December 7
Henderson	Walter O'Nan	Henderson	December 13-27
Henry	Owen Carroll	New Castle	December 27
Hickman		Clinton	December 2
Hopkins	David L. Salmon	Madisonville	December 2
Jackson			December 4
Jefferson	Arthur T. Hurst	Louisville	December 6-20
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Knott	M. F. Kelley	Hindman	December 25
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Menifee	E. T. Riley	Frenchburg	December —
Mercer	J. Tom Price	Harrodsburg	December 14
Metcalfe	E. S. Dunham	Edmonton	December 7
Monroe	George E. Bushong	Tompkinsville	December —
Montgomery	D. H. Bush	Mount Sterling	December 14
Morgan			December —
Muhlenberg	G. L. Simpson	Greenville	December 14
Nelson	R. H. Greenwell	Bardstown	December 15
Nicholas	T. P. Scott	Carlisle	December 20
Ohio	Oscar Allen	McHenry	December 1
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Spencer			
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Todd	B. E. Boone, Jr.	Elkton	December 1
Trigg	H. L. Wallace	Cadiz	December 29
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Wayne			December
Webster	C. M. Smith	Dixon	December 31
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BEING THE JOURNAL OF THE KENTUCKY STATE MEDICAL ASSOCIATION

Published Under the Auspices of the Council

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A LOGICAL ALLIANCE

We quote the following editorial from the New York State Journal of Medicine because we think the Editor of that great Journal grasps exactly the principles that are involved in the relationship between the private practice of medicine and the practice of the specialty of public health:

"The presidential address of Dr. A. T. McCormack before the American Public Health Association forecasts a closer integration of public health work with private medical practice. When the leader of a country's government-employed physicians decries the socialization of medicine, it is time for welfare agencies and politicians to stop and think.

"Dr. McCormack does not minimize the importance of the public health officer by his insistance on the inviolability of private medical practice. Medicine has two aspects, public and private, each of which is best served by respect for the other's role. Genuine cooperation between these two fields, so essential to the people's best interests, is only possible if neither fears encroachment by the other.

"With good will and intellectual integrity such as Dr. McCormack displays, there should be no barriers to close and effective collaboration between the public health officer and the private practitioner. The respective boundaries of public and private medicine are easily defined. As Dr. McCormack states, the sick individual is usually best treated by his own physician. Mass health measures, sanitation, the control of contagions disease, the analysis of general conditions producing bad health and organization of efforts to combat them—are the state's responsibility.

"Since health conditions and health needs show sharp divergence in different parts of the country, local planning and administration should be stressed. 'Remote control' is for the most part impractical in public health. It necessitates too many bureaucratic intermediaries between the central health authority and the public and conduces to an undesirable standardization of health programs. Local health departments, operating in conjunction with the local medical profession, can formulate policies adapted to local needs and carry them out without waste of precious funds for bureaucratic upkeep."

HENRY K. MULFORD

The pharmaceutical and biological professions lost one of their outstanding exponents of preventive medicine when Henry Mulford died, in his 71st year, on October 15, 1937. The company which Mr. Mulford developed was the first to commercially distribute antitoxins.

Mr. Mulford started as a drug clerk in New York and soon secured a job in Philadelphia in a drug store which was operated by two of the most distinguished pharmacists, Drs. Remington and Sayre, who have yet lived in America. His work in a retail drug store was the basis on which later was built a very remarkable career.

He graduated as soon as he became of age from the Philadelphia College of Pharmacy. It is interesting that in this Pharmacy (now nearly 160 years old) Henry Bowers had made glycerine. Eastbrook had perfected medicated lozenges, and Remington and Sayre had developed their background, and Mr. Mulford started his work in standardizing drugs and began his work in the biological field. He began the commercial distribution of diphtheria antitoxin in 1893. In 1921 he established the Mulford Colloid Laboratories, in which were developed many of the medicinal colloids and the antigens for the treatment of poison ivy.

Your Editor saw Mr. Mulford a week before his death at the meeting of the American Public Health Association, of which he had been an honored member for many years.

Science has lost one of its great exponents in this very lovable man.

THE WOMAN'S AUXILIARY

In common with the other members of the Association, we have received a letter from the Business Manager and Editor of the Quarterly Supplement to the JOURNAL, published by the Woman's Auxiliary. They call attention to the fact that the Quarterly has been published and distributed for these several years without any expense to the Association. It has been sent to all of the members, not only those whose wives have joined the Auxiliary, but to all the others.

We feel sure the members of the Association feel pride in this unique venture in medical journalism. In practically all of the other states the material furnished by the Auxiliary is published as part of the Journal and this means additional cost and takes up space that the Council has felt should be given to the scientific material that comes from the State and County Meetings.

The Business Manager reports the receipt already of an encouraging number of checks from the members. Our wives are hoping that at least a few of our members will send in a dollar each and in an early issue of the Quarterly they will publish a list of those who have helped. We hope your name will be found there.

THE AMERICAN COLLEGE OF PHYSICIANS

The Twenty-second Annual Session of the American College of Physicians will be held in New York City, with headquarters at the Waldorf-Astoria Hotel, April 4-8, 1938.

Dr. James H. Means, of Boston, is President of the College, and will have charge of the program of general scientific sessions. Dr. James Alex. Miller, of New York City, has been appointed General Chairman of the Session, and will be in charge of the program of clinics and demonstrations in the hospitals and medical schools and of the program of Round Table Discussions to be conducted at headquarters.

This association will be remembered by the physicians of Kentucky on account of the former president, Dr. Ernest Bradley, of Lexington.

ELIXIR OF SULFANILAMIDE

Every thoughtful physician, jealous of the reputation of our great profession, can only hang his head in shame when he reads this editorial. Dozens of physicians all over the country purchased or were given this potent poison by slick detail salesmen and used it on patients as innocent of any knowledge of the subject as either the manufacturer, the detail man or the beguiled physician.

How often must we repeat that the remedies listed in the National Pharmacopoeia and the National Formulary are sufficient for the treatment of practically every human ailment and are the only remedial agents whose standards are protected by law. If the physicians who read the JOURNAL have kept themselves informed of the progress in the development of the Pharmacopoeia, from Dr. Simpson's reports for the past several years, they should know this as well as we do. Let the research work be done by those who are qualified to do it. Don't accept the glib statements of detail men about medicinal agents. The newer remedies that can be used with safety can only be determined by reading your JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION and this JOURNAL. Study Pharmacology and Materia Medica from the accepted authorities and your own JOURNAL and disregard the smooth sales talks of detail men from the pharmaceutical manufacturers.

The tragedy of these nearly one hundred deaths from poisoning will focus public attention on the futility of much of the present Federal and State Food and Drug Acts. The Federal Food and Drugs Administration, headed by a Kentuckian, Mr. W. G. Campbell, is one of the most effective agencies in the Federal Government. They have a very highly trained and hard working personnel and a very meager appropriation, when one considers the magnitude of their job. They are circumscribed by an obsolete law, many provisions of which were dictated for the purpose of protecting the worst of the patent and proprietary medicine interests.

The deaths from Elixir of Sulfanilamide were so immediate that they attracted public attention, but deaths from chronic diseases, mistreated by themselves or by physicians who prescribe useless and worthless remedies, are naturally numbered in the thousands.

For the past several years Congressional Committees have been trying to perfect a new food and drug act which will meet this situation but they have been thwarted continually by Senators and Representatives who are representing these special interests that are preying on the American people. Kentucky may be proud of the fact that the Chairman of the Sub-Committee which is trying to re-write this bill in the House, so it will protect the public health, is Hon. Virgil Chapman, of Paris. He and his associates on the committee are doing their level best to take the pitfalls out of the present law and to make it effective. It is a travesty that today any individual who poisons another is guilty of murder, but a medicine manufacturer may today legally make and distribute such deadly stuff as this Elixir of Sulfanilamide and kill dozens or hundreds of people. Under the law at present such concoctions put up by proprietary houses are their own; they are not required to disclose their formula; they are subject to no regulations requiring standardization of manufacture, except labeling restrictions, which they have learned how to evade and avoid, and even these neither require the whole truth nor any warnings of danger.

Effective and constitutional laws can protect us from such tragedy. While it is still ineffective in operation, the provision of licensing by the Public Health Service of manufacturers of biologicals doing an interstate business, assures physicians that vaccines and serums for the control of communicable diseases may not be actually dangerous, although many of them are worthless. Meat packers are licensed under Federal law if they do an interstate business. Fish packers who do an interstate business may be licensed and shrimp packed under Federal inspection is clean and safe; yet any one, trained or untrained, educated or uneducated, may manufacture medicinal products of all kinds for the use of not only physicians, but for sale in any drug or general store, and they may change their formula as often as they desire without notice to any authority or to the public, and the law throws no safeguard around such products. It seems high time that Federal licensing of all manufacturers of drugs for human use sold in interstate commerce should be provided by law. Federal inspection of the plant where these drugs are manufactured would prevent a repetition of similar catastrophies. Federal inspection of butter and cheese manufacturing plants would prevent the use of filthy, decomposed cream and milk, now widely utilized in these two basic products. Under the present law proof must be presented before the lay jury of technical, chemical and biological tests that are so complicated that they can only be understood by experts. The law should provide that drugs for the treatment of disease can be sold only in drug stores providing pharmacists registered under the laws of the State, and provision should be made so that these habit-forming drugs, or those whose use by lay people may endanger their health, can only be sold on the prescription of a physician.

Continuance of these murderous practices that are now connived at by Federal and State laws must be stopped!

A NEW RADIO PROGRAM FOR SCHOOLS

The American Medical Association and the National Broadcasting Company present each week over the Red network a program of dramatized health messages intended to furnish graphic supplementary material for health teaching in junior and senior high schools. Much of this material is also useful for elementary schools, especially in the higher grades.

The program is broadcast each Wednesday from 2 to 2:30 p. m., eastern standard time, one hour earlier central time, two hours earlier mountain time and three hours earlier Pacific time. The list of stations to which the program is available appears in Hygeia. It should be noted that any station may or may not broadcast the program. Neither the American Medical Association nor the National Broadcasting Company has any control over local broadcasting, since this is a noncommercial program. Evidence of local interest may have influence with station managements.

The program will be presented in nine groups of four programs each, beginning Oct. 13, 1937, and running consecutively through June 15, 1938. Individual programs may be subject to cancellation for national or international emergencies calling for concentration of radio time in imperative public service.

The October issue of Hygeia contains the complete programs and members of this association and the auxiliary are requested to call attention of their local board of education to these programs.

NINTH GORGAS MEMORIAL ESSAY CONTEST ANNOUNCED

Announcement of the Ninth Gorgas Memorial Essay Contest has been made by Admiral Cary T. Grayson, Chairman of the Board of Directors of the Gorgas Memorial Institute, from the office of the institute at 1835 Eye Street, Northwest, Washington, D. C. The essay contests have become an annual feature of the program of personal health education carried on by the institute. High schools throughout the country are invited to enroll. Participation is restricted to students in the third and fourth years of high school.

For the best essay written in each school, a bronze Gorgas medal is awarded and the student so honored represents his school in the State competition. A prize of $10 in cash is given for the best essay in each State. The judges are the State commissioner of health, State superintendent of education and the secretary of state. The state prize winning essays are then judged for the national awards. First prize is $500 in cash and a travel allowance of $200 for a trip to Washington to receive the prize. Second prize is $150 in cash and third prize $50. The subject for this year: The Achievements of William Crawford Gorgas and Their Relation to Our Health. The dates of the contest: October 21, 1937 to January 21, 1938.

Full information concerning the contest may be found on school bulletin boards or can be obtained from the Gorgas Memorial Institute, Washington, D. C. or the Journal. General Gorgas was a Southerner and the South should encourage all school children to participate in this contest. It also attracts attention to the achievements of public health under the right kind of leadership.

Minutes of the Eighty-Seventh Annual Session of the House of Delegates of the Kentucky State Medical Association Held at Richmond, September, 13-16. 1937

FIRST SESSION

MONDAY AFTERNOON, SEPTEMBER 13, 1937

The first session of the House of Delegates of the Kentucky State Medical Association, Eighty-Seventh Annual Meeting, held September 13-16, 1937, at Richmond, convened at 2:00 p. m. Monday, September 13, in the Hiram Brock Auditorium, Eastern State Teachers' College, the President, J. D. Northcutt, Covington, presiding.

PRESIDENT NORTHCUTT: The House of Delegates will please come to order.

Report on Credentials, Dr. O. F. Hume, Richmond, Chairman.

SECRETARY ARTHUR T. MCCORMACK: I have the report here, Mr. Chairman. The roll of the House of Delegates has been made up from the credentials sent in by the secretaries and presidents of the county medical societies, and I move that the roll as reported by the Credentials Committee be made the roll of this meeting.

The motion was regularly seconded and carried.

PRESIDENT NORTHCUTT: The roll will now be called by the Secretary.

The Secretary called the roll.

SECRETARY MCCORMACK: Mr. President, a quorum is present.

Mr. President, Dr. Samuel E. Munson, of Springfield, Illinois, the President-Elect of the Illinois State Medical Society, is here as a fraternal delegate from his great state and great organization, and I move you, sir, that he be made a guest of the Association during the session and be invited to participate in the proceedings of the House of Delegates and of the scientific sessions, and that we extend to him and to his organization our gratitude for his presence here and all the courtesies and honors of a citizen of Kentucky.

PRESIDENT NORTHCUTT: There are many seconds to the motion. All in favor say "aye"; the motion is carried. Doctor, we are very glad to have you with us. Will you stand up and let us all see you. (Applause).

SAMUEL E. MUNSON, Springfield, Illinois: It is a pleasure for me to be here and to accept your cordial invitation. I bring you the greetings of the Illinois State Medical Society. Inasmuch as I have an invitation to participate in your meetings and in any of your discussions, I shall be very glad to answer any questions, not with the expectation of consuming time from the order of your business.

It is doubly a pleasure for me to be here. Originally my ancestors came from Kentucky. Saturday morning I found the marriage license of my grandmother and grandfather up in Cynthiana. Kentucky has always had a very warm place in my heart. My mother and father left here only a few years before the War.

Of course, we have a great many societies in our state because of the number of Doctors we have. I was informed by your Secretary that we have probably as many people living in Chicago as you have in the State of Kentucky. Although our counties are very much larger than yours, we have about the same number of delegates to our State Society. We have 102 counties and the delegates are represented by about that many counties.

We would be pleased at any time to have you visit Illinois. Of course, living in Springfield, as I do, I have occasion to know much of the proceeding of the Legislature during the time it is in active session. We have a very capable chairman of our Legislative Committee who lives in Springfield, and looks after the affairs of the State Society in the Legislature. We have had a very busy time during the past session of the Legislature, because of the various bills that have been introduced by the cults to modify our Medical Practice Act, which is conceded to be probably one of the best in any of the states. As you have had experience in your own state, you know full well the onslaught of the cults in each session of the Legislature, to modify the laws governing the practice of medicine in your state. As you know, there is an amount of money accumulated each session to be used in the modification of these laws. Therefore, it is a vital problem with us all the time to keep our Medical Practice Act intact on the statutes.

I certainly thank you for this cordial greeting, and I shall be very glad to take part in your discussions. (Applause.)

PRESIDENT NORTHCUTT: Minutes of the 1936 meeting.

A motion was regularly made, seconded and carried that the reading of the minutes of the 1936 meeting be dispensed with.

PRESIDENT NORTHCUTT: The following committees are appointed:

COMMITTEE ON CREDENTIALS

O. F. Hume, Richmond, Chairman.
T. O. Meredith, Harrodsburg.
Sam P. Myer, Louisville.

Committee on Scientific Work

H. G. Reynolds (President-Elect) Paducah, Chairman.
Frank M. Stites, Louisville.
A. T. McCormack, (Secretary) Louisville.

Medico-Legal Committee

J. B. Lukins, Louisville, Chairman.
Marshall McDowell, Cynthiana.
A. T. McCormack, Louisville.

Committee on Crippled Children

W. Barnett Owen, Louisville, Chairman.
Charles C. Garr, Lexington.
O. R. Miller, Louisville.

Committee on the Journal

Uly H. Smith, Louisville, Chairman.
George H. Wilson, Lexington.
E. T. Riley, Frenchburg.

Committee on Public Relations

Irvin Abell, Louisville, Chairman.
A. W. Davis, Madisonville.
E. M. Howard, Harlan.
J. B. Lukins, Louisville.
A. T. McCormack, Louisville.

Committee on Miscellaneous Business

H. G. Davis, Marrowbone, Chairman.
W. R. Thompson, Mackville.
Henry C. Hermann, Louisville.

Committee on Publicity

Hugh Mahaffey, Richmond, Chairman.
A. D. Wells, Richmond.
Robert Sory, Richmond.

Committee on Scientific and Commercial Exhibits

Charles A. Vance, Lexington, Chairman.
Virgil G. Kinnaird, Lancaster.
J. B. Lukins, Louisville.

Committee on Medical Education

Malcom D. Thompson, Louisville, Chairman.
Ewing Palmore, Glasgow.
J. G. Renaker, Covington.

Committee on Periodic Health Examination

John W. Scott, Lexington, Chairman.
Charles M. Edelen, Louisville.
E. B. Willingham, Paducah.

Committee on Hospital Standardization

Leslie Dodson, Owensboro, Chairman.
C. C. Howard, Glasgow.
C. G. Daugherty, Paris.
W. B. Moore, Cynthiana.

Committee on Workmen's Compensation Law

Frank P. Strickler, Louisville, Chairman.
H. S. Swope, Ashland.
R. A. Byers, Horse Branch.
C. G. Forsee, Louisville.
M. D. Flanary, Pikeville.

Heart Committee

E. F. Horine, Louisville, Chairman.
Charles W. Kavanaugh, Lexington.
L. H. Winans, Ashland.
W. B. Troutman, Louisville.

Committee on Control of Cancer

Wallace Frank, Louisville, Chairman.
J. Duffy Hancock, Louisville.
E. W. Northcutt, Covington.

Committee on Public Health Problems in Education

R. D. Collins, Whitesburg, Chairman.
Carl Norfleet, Somerset.
J. P. Wyles, Cynthiana.

Committee on Medical Ethics

L. Lyne Smith, Louisville, Chairman.
J. C. Morrison, Hickman.
S. P. Garrison, Bellevue.

Auditing Committee

T. J. Ray, Lexington, Chairman.
A. L. Bass, Louisville.
T. J. Poteet, Hodgenville.

Committee on Resolutions

J. A. Outland, Murray, Chairman.
E. A. Barnes, Albany.
Ben F. Allen, Flemingsburg.

Committee on Extension Course

D. Y. Keith, Louisville, Chairman.
Philip F. Barbour, Louisville.
J. S. Chambers, Lexington.

Committee on Woman's Auxiliary

Mrs. E. A. Barnes, Albany, Chairman.
Mrs. S. C. McCoy, Louisville.
Mrs. J. I. Greenwell, New Haven.

Committee on McDowell Memorial

Irvin Abell, Louisville, Chairman.
C. A. Vance, Lexington.
Louis Frank, Louisville.
C. C. Howard, Glasgow.
Rice Cowan, Danville.

Committee on Report of Council

J. A. Orr, Paris, Chairman.
J. Duffy Hancock, Louisville.
H. T. Morris, Greenup.

Committee on Military Medicine and Military Veterans' Affairs

E. C. Walter, Mayfield.
S. C. Smith, Ashland.
L. S. Hayes, Louisa, Chairman.

Committee on Medical Economics

A. Clayton McCarty, Louisville, Chairman.
John W. Scott, Lexington.
L. S. Hayes, Louisa.
W. T. Little, Calvert City.
A. W. Davis, Madisonville.
J. W. Acton, Glasgow.
A. D. Steely, Bardstown.
A. M. Leigh, Louisville.
J. P. Wyles, Cynthiana.
Carl Norfleet, Somerset.
R. L. Collins, Hazard.
W. H. Pennington, London.

Committee on Physiotherapy

Winston U. Rutledge, Louisville, Chairman.
Scott Breckinridge, Lexington.
William T. Briggs, Lexington.

W. N. Brown, Lexington.
Robert N. Biltz.
H. C. Hermann, Louisville.
D. Y. Keith, Louisville.
Orville Miller, Louisville.
Lee Palmer, Louisville.
Fred W. Rankin, Lexington.

Report of the Committee on Scientific Work, by H. G. Reynolds, Chairman.

H. G. Reynolds, Paducah: The report consists of the program which you have, and as far as other work is concerned, the Chairmen of the different committees will report on that.

Secretary McCormack: I move that the report be accepted and that the program as presented by the Committee be the program of the scientific sessions; that the time assigned for each essayist by the Committee be the time granted for that particular essayist with the exception that the names of Drs. Butterworth and Moren be dropped from the program.

The motion was regularly seconded.

President Northcutt: You have heard the motion of Dr. McCormack that this be adopted as the scientific program with those exceptions. All in favor say "aye"; opposed "no". The "ayes" have it and the report is adopted.

Report on Arrangements, Robert Sory, Richmond, Chairman.

Robert Sory, Richmond: On behalf of the Madison County Medical Society I am very happy to welcome you to Richmond again and to Eastern Kentucky State Teachers' College. If in any way we can do anything to add to your comfort or your pleasure while you are here, we sincerely trust you will call upon us.

The Richmond Golf Club invites you to use its course and if you are at all interested in golf we hope you will avail yourselves of this opportunity. Numerous trophies have been provided which will be awarded before the closing of the final session on Thursday afternoon.

The annual subscription dinner this year honoring Dr. Irvin Abell, President-Elect of the American Medical Association, and Dr. A. T. McCormack, President-Elect of the American Public Health Association, will be held tomorrow evening, Tuesday, at 6:30 in Burnam Hall.

The President's ball will be on Wednesday evening in the Madison High School Gymnasium from 9:30 p. m. until 2:00 a. m. All members and their families and guests are invited. Complimentary tickets may be procured in the lobby of the Administration Building.

I am requested to announce that the Richmond Lodge of Elks extends to you the courtesy of the Elks' Club rooms during your stay in our city.

I think those are all of the announcements except I don't want to be seated until I have invited you to visit the Trachoma Hospital. That is a personal invitation. This hospital is your hospital. It is the property of the Kentucky State Medical Association and was formerly the home of Mrs. William Irvine, the granddaughter of Dr. Ephraim McDowell. This hospital has been used as a trachoma hospital for the past eleven years. It was bequeathed by Mrs. Irvine to the Kentucky State Medical Association to be used as a memorial hospital to her grandfather, Dr. McDowell. I cordially invite you, and I believe the visit will be of interest to you. (Applause.)

Secretary McCormack: It becomes my very pleasant duty to present to you the President of the Association, Dr. J. D. Northcutt, of Covington, who will give us the benefit of the remarks that naturally ensue from his experience with us during the year that he was President-Elect and the year that he has been President. I present Dr. Northcutt. (Applause.)

President Northcutt: To make a report would be taking up time for nothing because you all know what has happened. There hasn't been so very much taking place that I know of—a lot of talk about a lot of things and little done about a great many others. I have no excuse for not having made you a better President; I have no apologies for not having made you a better officer, and I have but one explanation, and that is that I had many invitations to visit county societies which I didn't do except in the few places where I thought I possibly could do some good. The reason I didn't make these visits was because I had nothing at all to tell you worth while and I would rather tell you now than to have had you find it out—it is less embarrassing.

I do believe that in our part of the state medical societies are taking a greater interest. I don't think that is because I have taken more interest; I think probably it is because of the scare of that thing talked so much about—state medicine, about which we all talk lots and can do little. I doubt very much if any man has ever caused it to come closer or any man has ever stayed it off at all. In my opinion it is a natural growth and will be with us sooner or later. Possibly, something like old age, by the time it gets here we will be prepared to take it on; and, more like old age, we may deny that it is even here when it gets here; still more like old age, if we will live right and take the proper interest and do the things that we really can do, we will be better prepared to meet it as we are old age if we live right and prepare for the handicaps that old age brings.

I didn't intend to say anything this afternoon; I only meant to say thank you, but that would hardly be fair, because having this in my craw I might as well get it out. One of the things that I think we can do is to have one thing that concerns our people so plainly, remedied so far as we can, and that is the matter of a layman appointing the superintendents of our various hospitals for the insane and feeble minded. I firmly believe that that responsibility should be that of this body, and this body is in reality the Kentucky State Medical Association. It may be said that the law doesn't allow you to do it. Then change the law. That can be done; it has been done; it ought to be done; and I think it will be done. If that isn't state medicine, then tell me something that is. I would like for anyone to tell me something that is state medicine if a layman appointing men as political reward for their services, to fill places of responsibility such as I have mentioned, isn't. I would like to hear you say that that is not state medicine if it is not, and then tell me why it is not. I think a definition of state medicine might be anything that is handled by somebody other than the medical profession, that they give to you and make you like.

After I have lived through this administration (I won't say finished it! I have sort of lived through it) I would like to have this thought occasionally, that I had some part in starting some of the things that we can really do.

I think that you can scare a man so often in the same place and about the same thing that finally he gets so he refuses to be scared. I think that might be applied to the doctors about state medicine. We have been scared so often about the same thing and in the same way that we are now getting ready to fight and we refuse to be scared. There are lots of things that we can't do and there are lots of things that we can do, and I think that is one of them.

I attempted to write two papers on socialized medicine. I started the third one and it was a resume of the other two and I decided that some day I might finish it—not that I had said all that could be said, but said all that I knew. If it is not the proper thing, someone will correct me, but it seems to me that these things we are facing should be discussed openly and above board and at the general session and at your session and with unpolished and unpolitical remarks—just come right out and say it.

I have been proud of having been elected to the Kentucky State Medical Association presidency. A great many men who have tolerated me knew nothing at all about me. The thing that has pleased me most and the thing that I will remember the longest is that the boys back home in our own county society were behind me and they are with me yet. I thank you. (Applause.)

Next is the report of the Council, Dr. Vance, Chairman.

Report of the Council

C. A. Vance, Lexington: The Council desires to express the gratification that must be in the heart of every member of the medical profession of Kentucky because of the service that we were able to render during the unprecedented flood disaster of February and March of this year. In every city in the area seriously flooded, as well as in the dozens of other hospitable towns of the state which received and entertained refugees, the medical profession was immediately mobilized under the leadership of its county society and the medical service which was rendered by the physicians of Kentucky was probably the largest contribution made by any one organization to the care of the sufferers.

Our organization was very fortunate in that with its approval and under its auspices full time county health departments were functioning in seventy-six counties. The trained personnel from the counties not affected by the flood were immediately transferred to the flooded area, and with the reinforcements sent in by the United States Public Health Service and from other state health departments, it is of record that there was the largest mobilization of trained public health personnel in Kentucky that has ever occurred in the history of the country outside of war. These services were rendered by the medical profession without cost or charge to anybody. We have noted in the public prints, claims by first one organization and another that these contributions to public health and preventive medicine in Kentucky during the flood were made by them. We desire to make it a permanent record that the organized medical profession of Kentucky contributed its services in this emergency and neither asked nor received any compensation for them.

The medical profession and the people of Kentucky have always realized that the State Health Department is the legal arm of the medical profession, and it was never demonstrated better than in this emergency. Every physician in Kentucky responded to every call that was made upon him. Emergency hospitals were set up wherever they were needed. Numerous single cases of contagious disease occurred, but prompt diagnosis and preventive inoculation were made and there was not a single local epidemic of any sort. In each instance where there was a single case of either diphtheria or scarlet fever, immediate care prevented the development of even second cases. There was less sickness during this flood than during any other flood in the history of Kentucky. This was entirely due to the effective service and leadership of the medical profession and the confidence and faith which the people of the state reposed in the profession. The largest number of typhoid inoculations that have ever been administered to a civil population were given, and it is interesting that the typhoid rate in the flood area is actually lower than it was last year as a result of these widespread inoculations. The necessary biologicals were provided by the United States Public Health Service without cost to Kentucky, and we desire to express our especial appreciation to Surgeon General Thomas Parran, Jr., for the prompt assistance he rendered throughout the emergency.

More than four hundred active physicians had their homes or offices, or both, seriously damaged by the flood. Many men lost the savings of a lifetime while they were attending to the calls of humanity, to which they responded without thought of themselves. Some of our physicians whose practice was located in areas where practically all of their paying patients were put on the relief list by the flood, found themselves in a peculiarly distressing position. The President immediately appointed a committee to consider this situation, of which Dr. E. L. Henderson, Louisville, is Chairman. After exploring a number of possibilities, he reported a plan for the temporary employment of these men to give medical care to their unfortunate neighbors, which was approved by the Council and the State Health Department, and which has operated most satisfactorily.

The flood left as one of its serious problems the housing of the offices of this Association and the State Board of Health. Joint meetings of the Council and the Board were held in the temporary offices in the Brown Hotel during the flood, where the Board was in continuous session, and several have been held subsequently. Numerous projects were presented for consideration, including the construction of a new building and the reconstruction of several existing buildings in Louisville. Some study was made as to the possibility of locating the offices in either Frankfort or Lexington, but these were not found practicable. Many of the leading citizens of Louisville and Kentucky were very much interested in helping us solve our problem, and Messrs. Stewart and Moore of the Fidelity and Columbia Trust Company brought us a proposal to purchase the Federal Land Bank Building, which had been erected in 1927 and which is a splendid fireproof, four-story structure, located on Third Street adjacent to the Henry Clay Hotel. The building has an ample parking lot adjoining it, which is part of the property.

Due to the complexity of the problem it was found impossible to complete the trade until September 1st, and it was necessary for the check to pass, making the transaction, that day. The Council had approved the purchase, and in the emergency Dr. McCormack personally bought the property for $150,000, paying $15,000 cash and giving nine notes for $15,000 each, payable annually, bearing interest at the rate of 4 per cent. Simultaneously with the deposit of the deed with Dr. McCormack, a deed was filed from him transferring the property to this Association, which, by resolution, had authorized the acquisition of the property. This resolution is as follows:

A resolution providing for the purchase or construction of a building for the use of the State Department of Health of Kentucky by the Council of the Kentucky State Medical Association: Declaring such purchase or construction to be a necessity: Ordering the purchase or construction of said building: Providing for the rental of said building to the State Department of Health: And providing for the issuance and payment of first mortgage and revenue notes to finance said purchase or construction.

WHEREAS, The State Department of Health is not now being provided with adequate space for office and laboratory purposes and in order to provide said department with more adequate facilities for carrying on its many services, it is necessary that there be purchased or constructed a suitable building; and

WHEREAS, The State Department of Health has heretofore submitted plans for the purchase of the Federal Land Bank Building and preliminary plans and specifications for the construction of a building on Barret Avenue; and

WHEREAS, Said plans and specifications for both these buildings have been heretofore adopted and ordered completed and presented to the Council of the Kentucky State Medical Association and the State Department of Health for final approval, pursuant to said resolution authorizing the approval of the detailed plans and specifications for said construction; and

WHEREAS, The State Department of Health has agreed to pay an annual rental on said building which will retire all of the indebtedness herein authorized within twelve years; and

WHEREAS, The construction of said building will involve no expenditure of money by the Kentucky State Medical Association and will provide no profits to said Association from said construction, it is agreed by the Association that upon the payment of said indebtedness the title to the building and lot herein authorized to be purchased or constructed shall be vested in the Commonwealth of Kentucky for the use and benefit of the State Department of Health in perpetuity by suitable deed;

NOW THEREFORE BE IT RESOLVED by the Council of the Kentucky State Medical Association as follows:

Section 1. That there shall be purchased or constructed a building for the State Department of Health of Kentucky to be used for office and laboratory purposes substantially in accordance with the plans heretofore approved by the Council.

Section 2. In order to provide for the cost of such purchase or construction project of said State Department of Health, as designated in Section 1 hereof, there would be issued or assumed by the Kentucky State Medical Association in its corporate capacity and by and through its corporate name, $135,000 first mortgage and building revenue notes as of August 30, 1937, of the denomination of $15,000 each, to be numbered from one to nine inclusive, bearing interest at 4 per cent per annum, payable on August 30, 1938, and annually thereafter on the 30th day of August of each year, with the provision that the Kentucky State Medical Association retains the privilege of making any payments on this indebtedness in advance of maturity, in whole or in part, and that interest on such said payments when made shall cease.

Said notes shall be signed for and on behalf of the Kentucky State Medical Association by the Chairman of the Council and sealed with the corporate seal of the Association and attested by its Secretary; and said notes, together with the interest thereon, shall be payable only out of the "Health Department Building Revenue Note and Interest Redemption Fund" hereby created and shall be a valid claim of the holders thereof only against said fund and the gross income and revenues of the project pledged to such fund.

It is hereby certified, recited and declared that all acts, conditions and things required to exist, happen and be performed precedent to and in the issuance of these notes, do exist, have happened and have been performed in due time, form and manner as required by law, and the amount of these notes, together with all other obligations of said Kentucky State Medical Association, does not exceed any limit prescribed by the Constitution or Statutes of Kentucky, and said building will be continuously operated by said Kentucky State Medical Association for the use and benefit of the State Department of Health of Kentucky and that a sufficient portion of the income and revenues of said building has been pledged to and will be set aside into a special account in the Treasury of the said Kentucky State Medical Association for the payment of the principal of and interest on these notes, and the issuance of which it is one.

IN WITNESS WHEREOF, the Kentucky State Medical Association has caused these notes to be signed by the Chairman of its Council, and its corporate seal to be hereunto affixed, attested by the Secretary and the coupons hereto attached to be executed with the facsimile signatures of the said Chairman and the said Secretary, as of the 30th day of August, 1937.

(Signed) CHARLES A. VANCE,
Chairman.

(Seal) Attest:
(Signed) A. T. MCCORMACK,
Secretary.

On the same day, the Kentucky Real Estate Board, consisting of

Governor A. B. Chandler, Chairman.
Charles D. Arnett, Secretary of State.
E. S. Shannon, Auditor.
John E. Buckingham, Treasurer.
Hubert Meredith, Attorney General.
Walter W. Mulbry, Secretary.

met in Frankfort and unanimously authorized the purchase of the property, which has now been deeded to the State of Kentucky for the use and benefit of the State Board of Health.

This transaction, which was carried through without costing this Association a penny, preserves the historic connection between the organized medical profession of Kentucky and the legalized Health Department of Kentucky, which are, for all practical purposes, one and the same thing. The State Health Department was created in 1878 upon the urgent insistence of the State Medical Association. Every function which has been added to it and every policy which it has developed has been approved by the Association. As long as this integration of the other branches of medicine with public health continues, we need feel no anxiety about any other group or organization taking the leadership in medicine in Kentucky from its medical profession. We have earned and we have secured the public confidence, and if we continue to develop and support better, more efficient medical service and better and more efficient public health procedures and organizations, we need feel no anxiety about the adoption of socialized or state medicine in Kentucky.

The Council desires to express its appreciation to Governor Chandler and the other members of the Kentucky Real Estate Board for their fine interest and generous support in securing for the State Board of Health and the State Medical Association probably the best building in the Commonwealth of Kentucky in which to house its activities for the future.

The membership of the Association is practically stationary. At the date of this report 1659 members are in good standing this year, as against 1668 last year, and 1681 the year before. It is a pleasure to recognize the increasing interest in the work of the Association, which is indicated by more meetings and larger attendance of the county societies, and by especially well attended meetings of the Councilor District societies.

We have published the report of the auditors on the accounts of the Secretary and Treasurer in the Annual Number of the Journal. We have continued to publish these in great detail because we feel that every member of the Association, and particularly every member of the House of Delegates, is entitled to know all about the affairs of the Association.

The income of the Journal this year was $6,514.13 as contrasted with $7,012.48 last year. The total cost of the Journal was $7,703.12 this year as compared with $8,764.18 last year. Our advertising income is continuing to increase and we hope to have a still more favorable report next year. The advertising income of the Journal is due entirely to the loyalty of the members in giving preference, other things being equal, to those announcements appearing in our advertising pages. Most of our members read the Journal; its scientific value is apparent. The Council is very grateful to the American Medical Association and especially to its Cooperative Medical Advertising Bureau for its successful campaign for national advertising. We desire to extend our gratitude especially to Messrs. Braun and Mattson, of the parent organization, for their constant interest in the Journal.

The Journal has continued to comply with the established policy of the Association by publishing all articles read before county societies, as well as the scientific proceedings of the sessions of this Association. The annual volumes of the Journal provide a fair index of the state of medical knowledge, and one who will take the trouble to compare the volumes of the Journal from year to year will take great pride in the increased scientific knowledge of the medical profession and its constantly increasing ability to better serve the people.

We are sure our members will be interested in the educational exhibits, both scientific and commercial, at this Richmond meeting.

For thirteen years now, the Association has cooperated with the State Board of Health for the enforcement of medical practice and other health laws. The House last year authorized the expenditure of not to exceed $1,200 for this purpose. It is the purpose of the State Board of Health to protect the people of Kentucky from incompetency and corruption in the medical profession, and for this purpose the Council recommends that not to exceed $1,200 be appropriated for next year. It has not been necessary to use any part of this appropriation for the past two years, but it is important that it be available in case an emergency should arise where it might be needed. We desire to urge the cooperation of the county societies with the State Board of Health in calling to their immediate attention any practice of medicine by untrained and unqualified practitioners who have not received a certificate entitling them to practice. When such information can be accompanied by the names of witnesses upon whom these people have practiced, it expedites and makes easier the necessary legal procedure.

The Medico-Legal Committee has conducted its affairs during the present year with its usual efficiency and economy. Attorney fees were $650 as contrasted with $550 last year, and $880.10 the year before. Court costs this year were $30 as against $31.40 last year. A stenographer has been furnished to the Chairman of the Medico-Legal Committee at a cost of $600. The Council recommends that this service be continued.

The Council desires to again express its appreciation to Dr. J. B. Lukins, who is the Chairman of the Committee, and Honorable Roy B. Curtis, Attorney, for the actual court presentation of these technical cases. The Committee will give a detailed report of its activities which we are sure will receive the attention of the House.

Last year an appropriation of not to exceed $1,200 was made to continue the work of the Committee on Public Relations; $1,110.85 was expended, and Mr. Blackerby will make a report of the work he has been doing this year. The Council recommends that this appropriation be continued.

It is with great pride that the Council reports the continuing service rendered by the Irvine-McDowell Memorial Hospital for Trachoma, located here in Richmond. We hope every member of the Association and of the Auxiliary will inspect this fine institution while they are in the city. The House will recall that this institution was bequeathed to the medical profession of Kentucky by Dr. Ephraim McDowell's granddaughter, Mrs. Elizabeth Irvine, and it has restored to usefulness many citizens of Kentucky and other states who would otherwise have been blind. This hospital is now conducted under the control of the State Department of Health and we are fortunate in having as its Director Dr. Robert Sory, who is an officer of the United States Public Health Service.

The Council is again happy to call attention to the progress being made in public health work in Kentucky through the cooperation of the State Health Department with the United States Public Health Service and the Children's Bureau under the Federal Social Security Act.

We desire to reiterate and reemphasize the purpose of the organized medical profession of Kentucky to maintain intact the prestige, influence and standing of the physicians of this Commonwealth. It is our high purpose to continually extend our knowledge of both disease and health so that we can ameliorate or cure or prevent the one and preserve the other wherever either is possible for our patients. We are opposed to the socialization of medicine in any shape or form. It is our purpose to maintain for our individual citizens free choice of their medical adviser. To these ends, the Association instructs the State Health Department and county health departments that their chief function is to so cooperate with the other branches of the medical profession and with the public that our people may be kept so informed of advance in the practice of the art and science of medicine that they will continue to repose their confidence in the only trained body of knowledge, thought and action that can give them any hope of cure or prevention of disease.

The Council has kept itself constantly in touch with the great constructive program of Governor Chandler for the development of the state's eleemosynary institutions, especially the hospitals for the care of the insane and feeble minded. The Council cannot condone the appointment of unqualified members of the profession to administrative positions in the hospitals for the insane, or in any other positions requiring medical care. We are glad to note that the program of the Governor for the development of the new institutions is being undertaken under the supervision and guidance of those members of our profession who have national reputation in the field of psychiatry. It is of first importance that the physicians and people of Kentucky recognize the absolute necessity for the selection of specialists in psychiatry and neurology for the treatment of patients suffering from mental and nervous diseases. We urge that every physician in the state keep repeating until it becomes popular knowledge that there must be adequately trained scientific personnel in our institutions for the insane, and that they must be selected without regard to political affiliation or consideration, but solely with the view of securing for the unfortunate inmates of such institutions that degree of scientific care that can assure them restoration to usefulness wherever this is possible. We recommend that the Committee on Public Relations be instructed to confer with the Governor and General Assembly of the State for the purpose of developing a sound professional policy for the care of those of our citizens who are suffering from nervous and mental disease.

The Council desires again to approve the thoroughly practical plan of the Fayette County Medical Society for medical care to the indigent of that county, and congratulate the fiscal court of Fayette County on its fine cooperation in making such an economic plan possible.

The work of the Committee on Councilor District Meetings has been very successful and it is recommended that this work be continued.

The Council has received with interest the several verbal reports of the members of the Advisory Committee to the Woman's Auxiliary. We desire again to congratulate its officers and members upon its very real accomplishments. We note that new Auxiliaries have been organized in several counties. We are quite confident that if those of our members in counties which have not yet organized Auxiliaries will carefully read the Quarterly Supplements to the JOURNAL and take them home for their wives and daughters to read, that there would be an active Auxiliary in every county in the state. There is no question but that there is increased interest in the county societies where auxiliaries exist. From the statement one frequently hears from uniformed physicians one would think that Kentucky is the only state in which there is a Woman's Auxiliary. In order that our members may be informed on this subject, we will state that there are effectively organized Auxiliaries in thirty-nine states; that last year there were 15,901 members of the Woman's Auxiliary to the American Medical Association, and there were 1,539 members of the Auxiliary at the last annual meeting of the American Medical Association. This vast organization of women with first-hand knowledge of medical ideals and practices has been built up with the active interest of the American Medical Association, and the earnest work and very real enthusiasm of the women who have made the success of our Kentucky Auxiliary possible has had its counterpart in almost every other state in the Union.

Again we wish to state that the QUARTERLY SUPPLEMENT TO THE JOURNAL, which has been published for several years by the Woman's Auxiliary, has never cost the State Association a single dollar. The House has annually appropriated $500 for the purpose of assisting in the development and maintenance of the Auxiliary organization; the only expenditure that has ever been made for this appropriation has been for the luncheons given by it to the officers and active members of the Auxiliary. None of these luncheons has exceeded $100. We desire especially to commend the publication of the Quarterly Supplement this year. We feel that it has been equally valuable to the members of the Auxiliary and the members of the profession itself. The Council recommends that the Auxiliary be requested to continue the publication of its Quarterly Supplement. It further recommends that an appropriation not to exceed $500 to assist in the development of the Auxiliary, through the publication of the Quarterly, or otherwise, be made next year.

We desire to commend especially the efforts of the Auxiliary to increase the subscriptions to Hygeia, the medical service education organ of the American Medical Association. The activity of the Auxiliary in this respect does not lessen the responsibility every physician in the state has of recommending to his clientele, who are interested in public health and medical service, that they subscribe to Hygeia.

The Committee on the McDowell Memorial will report the approaching completion of its restoration. The indebtedness on the purchase of this property has been paid; it was immediately transferred to the Kentucky State Park Commission, and under the supervision of Mr. Julian Oberwarth of Frankfort, one of the state's distinguished architects, and with the consultant service of Mr. Donald Corley of Washington, Chief Architect for the Works Progress Administration, the restoration of the home to its condition on the day of the operation is nearing completion. The Council desires to express the gratitude of the Association to Messrs. Oberwarth and Corley, and through them to Mr. G. F. Shaw, Regional Director of the Works Progress Administration, and to Honorable Harry Hopkins, the Federal Administrator of this organization, for the interest they have taken in this restoration and preservation of the greatest of America's surgical shrines. We also wish to thank Honorable Bailey Wootton, State Commissioner of Parks, for his continuing interest in this work.

The Council again desires to emphasize and reemphasize the paramount importance of the preservation of the integrity of the active organization of the county societies themselves. There is no question about the values in group meetings of several counties, or, even of Councilor Districts. The importance of the meetings for graduate study is recognized, but no substitute has yet, or we confidently believe, ever will be found for regular meetings of each county society. Regardless of the consideration of the general problems of the state by this Association, in our type of organization the affairs of each county should be considered by its own doctors, and its meetings should be held within its own boundaries so that every reputable physician in the county may have the opportunity of participating in its discussions and in the determination of its policies.

The Council wishes to again express its very deep appreciation of the splendid support which it has received from the medical profession of Kentucky. It is its desire to accomplish the purposes of this Association as expressed by its House of Delegates.

Respectfully submitted,
C. A. VANCE, Chairman.

A motion was regularly made and seconded that the report of the council be adopted.

JOHN W. SCOTT, Lexington: Isn't the regular routine for the report to be referred to the Committee on Report of the Council? As long as a committee has been appointed to consider the report of the Council it seems to me that it would be normal for it to take that procedure. I therefore offer as a substitute for this motion that the report be referred to the Committee on Report of the Council.

The motion was seconded.

SECRETARY MCCORMACK: The motion to commit takes precedence.

PRESIDENT NORTHCUTT: All in favor of the motion of Dr. Scott will please say "aye"; contrary "no". The "ayes" have it and the motion is adopted to refer the report to the Committee on Report of the Council.

Next is your Treasurer's report.

SECRETARY MCCORMACK: I have here the report of the Treasurer as published in the JOURNAL and I move that it be referred to the Auditing Committee. The motion was seconded and unanimously carried.

PRESIDENT NORTHCUTT: Next is the Secretary's report, Dr. McCormack.

REPORT OF THE SECRETARY

SECRETARY McCORMACK: I have the privege of appearing before you for the thirty-first time to make my annual report, and I am going to depart from the ordinary procedure because the report of the Council has so thoroughly covered the activities of the Association during the year that any further statement from me in that regard would be a mere reiteration. But I want to remind the House of Delegates and the members of the Kentucky State Medical Association of the significance of the purchase of a building which will be the joint property and the joint offices of the State Medical Association and the State Department of Health. There is a very deep significance in this combination that is historic in its origin and of vast import in regard to the medical affairs of the State of Kentucky.

This Association was incorporated and organized in 1851. From 1851 until 1878 a continuous campaign of education was carried on for the purpose of creating a State Department of Health. In 1878, as a result of the emergency of the yellow fever epidemic of the preceding year and of that year, a law was passed creating the State Board of Health. That law was passed largely at the instance of the only physician who has ever been Governor of Kentucky, Dr. Luke P. Blackburn. From its inception, the State Board of Health has been recognized both by the people and the legislature and by the profession of the state as the legal arm of the State Medical Association. There has never been any division of thought at any time in regard to these activities.

If you will recall the conditions that existed at that time; following the Civil War we had much of the turmoil and confusion that followed the World War, but during that preceding rupture we had no means of communication, with no possibility of organized effort to cure defects and wrongs, and they just simply had to cure themselves or die out from malnutrition. It will be recalled that the first medical school west of the Alleghenies, the fifth in America, was established in Lexington, Transylvania University, and from Transylvania University a vast majority of all those who practiced medicine west of the Allegheny Mountains at the time of the Civil War had graduated. Medical leadership had developed in Kentucky. But with the Civil War the states were unable to continue to contribute to their institutions of learning and the medical schools were taken over almost entirely by commercial organizations.

It is interesting to go over the old reports and to realize that from 1868 to 1904, careful perusal of the records of the at one time eleven medical schools in Louisville reveals that during those years there was not a single man rejected for graduation who paid his fees and there was not a single man accepted for graduation who didn't pay his fees. It is entirely possible that there was a sort of condition during that period of time when only those who were able to pay the fees were able to pass examinations, but it seems a curious historic coincidence.

As long as the schools were purely commercial they necessarily had to attract students, they did everything that competitive commercial organizations would have done for that purpose.

I always feel like paying a special tribute to the three members of that committee, Dr. Aud, Dr. Richmond, and Dr. Griffith, the latter still a member of the Council, for the very remarkable work they did for the combination of our medical schools into the Medical Department of the University of Louisville, which has continued to grow and develop and is now one of the leading Class A medical schools of the United States.

In 1878 when the State Board of Heatlh was organized, there were no recognized public health procedures. There was a great deal of conversation about the possibility of that development, but until Koch made his discoveries, until Pasteur had developed his scientific knowledge, there was no sound scientific basis on which preventive medicine or public health could be developed except and solely as a result of the clinical observation of Dr. Jenner in regard to vaccination for small-pox. However, with the discovery of bacteriology and with its practical application, these methods rapidly developed.

In 1878 the average age at death in Kentucky was less than twenty-eight years. In 1878 there were 4822 men practicing medicine in Kentucky under what we might call the law of courtesy that had been passed and made effective on February 23, 1864, which provided for district medical examining boards, practically the same thing that existed then and for many years later for admission to the state bar, and this district examining board examined the applicants who appeared before it. They were not required to attend medical school, and at the time of the passage of the first real medical practice act in 1888 there were more than 1700 men practicing medicine in Kentucky who hadn't been in a medical school longer than six months and many of them had never been in one at all. Everybody who appeared before the examining board was passed as a matter of courtesy and it was considered a matter of professional etiquette that everybody should pass who applied; if they inherited a few medical books or bought an almanac or two they had all the qualifications that were necessary.

It is of interest that at that time the death rate in the state was little more than thirty-four as contrasted with the present death rate of about eleven. In other words, as we have become a qualified scientific profession, practicing the art of medicine, we have given to the state, along with the progress in education and in social welfare, a far better total knowledge and a far better care when they were sick, far better care in the prevention of sickness than was possible under such an archaic and impossible system as then existed.

During Governor Beckham's administration the practice of preceding Governors was crystallized into law and the members of the State Board of Health were selected by nominations made by the Council of the State Medical Association, and that has continued up to the present time. All of the plans, all of the procedures, all of the principles that have been adopted by the State Health Department have met with the approval of this organization.

The first county health department in the United States was organized in Jefferson County in 1908 as a result of a resolution adopted by this Association, and the development of other health departments since that time has been under the plain procedure and instruction and direction of this Association in those counties where the counties were ready for them. We now have eighty-six of them in operation.

The plan that has been adopted in Kentucky is largely responsible for the passage of the health and child welfare sections of the Social Security Act. We didn't have to make the change of a dotting of an i or a crossing of a t in our law in order to accommodate ourselves to that act, and it required no increase in our appropriation in order to participate in its benefits. The adoption of that section of the law was the only answer to the proposal that was at that time in print and offered in the committee, for the beginning of socialized medicine, and I am very happy to say that the answer to the whole plan of socialized medicine or state medicine as very well defined by our President, that is, where someone other than physicians shall have control of medical practice, is a thing against which I think we can continue successfully to contend provided we ourselves deliver the goods. The answer is that we shall be so organized that we shall be able to have organized health departments not merely to do all that it is humanly possible for scientists to do in the prevention of disease, but even more largely for the purpose of educating the public as to the responsibility and the possibility of response by the medical profession to these human problems. No other profession, no other group of people in the whole world, has made such a contribution to human welfare as has our profession. We know that; everybody recognizes it. It is perfectly natural that there are many groups of people who would like to seize on such an organization as this and the other state associations composing the American Association and would like to control them for the purpose of improving their own standing by taking possession of a structure that is already built, every particle of which is functioning for the benefit of humanity.

Our answer to it is that we are not a static profession looking back, as the law has done, but that we are looking forward and that we propose to develop in every governmental unit in America such an organization for the preservation of health, for the protection of the people, such an organization for medical service, as will solve the several and various problems that from time to time press upon us.

I don't want to invade the domain of the Committee on Public Relations or the Committee on Medical Economics, but I merely want to touch these problems and have you know that for this new building in Louisville it is provided in the deed to the state that the officers of the State Medical Association will be permanently provided for in the new structure, and on each side of the entrance, bronze plates will be a constant monument, the one with the words, "Kentucky State Medical Association," the other "State Health Department of Kentucky," to the union for the preservation and protection of human life. We accept the invitation of those engaged in social work, and we propose to develop plans for the solution of those problems which we only can solve and which should only be solved under our leadership and solved under our control, and we pledge ourselves and our best endeavors to continue that alliance, with the end result that we propose to reach into every home in Kentucky and have them know that there is one profession that is willing to forget itself in their service and give itself wholly and completely to them, and we dedicate ourselves to that end as an Association, as a profession, and as individuals. When we do that we need have no difficulty and no anxiety about those who would encroach upon our field, those who would control our economic system, those who would destroy the initiative in medicine and the freedom of choice of physicians by every individual who seeks a physician. We will have no difficulty in solving our problems as they should be solved. The only thing that I want to ask you to do (because in the very natural course of events I will not stand before you as your Secretary a great many more decades, I am afraid) is to have you younger men realize that the State Department of Health is yours, is ours, its causes are for our determination, it is our agent, and what it does and the way it carries through is our responsibility. As long as we do it well we will continue to control the State Department of Health as long as we continue to give the best that is in us for medical service, as long as we continue to advance our knowledge step by step with the advancement of the science of medicine and give the result of that knowledge to people who are well or sick in Kentucky, we will continue to control medical practice and we need feel no fear of attack or inroad by those who are untrained and inefficient, whose lives are ephemeral and who will live but a day no matter what is done for them legally or otherwise, because truth will prevail in the end.

I want to ask you to join with me in a rededication of our whole Association to the high motives set forth in the preamble to its Constitution and that we determine from now on forever, that the medical profession of Kentucky proposes to control its destinies by conducting its affairs on such a plane and with such unity that it will continue to command, as it has commanded for the past fifty years, the confidence and respect of every well wisher of Kentucky and her people. (Applause)

President Northcutt: Dr. McCormack will now call the roll for reports of the Councilors by Districts.

First District

V. A. Stilley, Benton: There is very little difference in the membership in the Fist District this year over last. Practically every active practitioner in our District is a member of the Kentucky State Medical Association. We have a district association, the Southwest Kentucky District Association, of about 175 members. We have several sub-district societies, as we call them. The Southwest Kentucky Medical Association meets four times a year. It is well attended and well represented by the profession.

Practically all the counties in my District have a county medical society. I met with one county medical society a short time ago and there were five there, but we had a corking good time. I find it to be the case where there are three or more together; we are all better after having associated with one another.

I want to pay a tribute before I sit down. In my end of the state when the flood came I expect that we had more territory covered per square mile than any other portion of the state. All the water that fell up here and anywhere else was shipped down on us. We were between the Mississippi and the Tennessee and the Cumberland and the Ohio. There was an immense number of doctors that were practically ruined, but do you know, not a single, solitary doctor up to now has asked for aid, not a one! I think that takes a great amount of intestinal fortitude. The doctors had a chance to come back; they did come back; they took it on the chin; they helped us. I happened to have charge of the flood work in that particular district, and there wasn't a single doctor at any time but who volunteered his services day or night, without any remuneration of any kind, except just from the humanitarian standpoint and the love of his people.

Dr. McCormack is probably more familiar with that end of the state when it comes to the flood area, because he happened to be down there. He had to fly to get there and he had to fly to get out. We fellows who were down there had no way in the world of getting out except by airplane, and did not have a plane!

You were good enough to elect a President from our end of the state, and he is here. I want you to deal rather kindly with him; he is just a country boy, but you bear with him the best you can and I'll help him out anyway I can. (Applause)

Fourth District

J. I. Greenwell, New Haven: The Fourth District has nine counties: Breckenridge, Bullitt, Grayson, Hardin, Hart, Larue, Nelson and Spencer. Most of the counties in this District have county societies, but I am sorry to say that they do not meet as often as they should. The Muldraugh Hill Medical Society, located in this District, meets quarterly at Elizabethtown. Most of the doctors in this District are members of this society and attend these meetings regularly. That may account for their not having regular meetings of their own county societies.

We had a District meeting at Munfordville, which was well attended by most of the doctors of Hart and the adjoining counties, as well as by a number from Louisville.

The paid-up membership shows a slight increase over last year, notwithstanding we lost four members by death during the year.

Fifth District

J. B. Lukins, Louisville: The Fifth District Medical Society is composed of nine counties. We have a paid-up membership of 449 members and nine honorary members. We are well organized. Dr. Allen Donaldson of Carrollton is President and Dr. Owen Carroll of Newcastle is Secretary.

Since last year we have had three District meetings, one in Louisville, one in Carrollton, and one in Frankfort. I might say that is the first time a meeting has ever been attempted in Louisville. These meetings have shown increased interest and attendance. There were seventy-five present in Carrollton and sixty-six in Frankfort.

Franklin, Shelby, and Jefferson have very active county societies with regular meetings. Oldham, Gallatin, Owen, Henry and Trimble do not have regular meetings, but many of their members attend either Franklin or Shelby.

It is very apparent that the great need is for young doctors in many of these counties. It is very noticeable that in the towns that have a young man for secretary, regular meetings are held.

The spirit of the profession is fine, and it is appropriate to say that even though it has the largest and one of the best medical organizations anywhere, the greatest need for missionary work is still in Jefferson county.

SIXTH DISTRICT

W. B. ATKINSON, Campbellsville: The Sixth District is one of the small ones. There are two counties that have fairly active county societies, Boyle and Taylor. The other county societies have not been as active but are improving. Since the last state meeting we have had one Councilor District meeting with the men at Harrodsburg and it was a very excellent meeting. We had still a better one in Danville this spring, because it was composed of both the Sixth and Seventh Councilor Districts. There has been no loss of members by death. There have been two or three younger men who have moved in and located in this District last year. I think things are moving healthily, if that is a good word, and we have not set the woods on fire but we have tried to cooperate.

EIGHTH DISTRICT

L. C. HAFER, Covington: The past year has been one that will be long remembered in the annals of our District and the state at large as well. The devastating flood caused the physicians in the majority of the counties in the Eighth District to suffer financial losses running into thousands of dollars, besides untold hardships and inconveniences. But all this was borne with fortitude and stoicism. The effect of this disaster has probably made itself felt in the attendance of some of the societies, due to an interruption in their regular schedule of meetings. However, conditions are rapidly returning to normal and we are looking forward to greater interest next year.

Your Councilor has visited each active society in the District at least once and in the counties of Pendleton and Bracken, where there was no active society in either, due to the fact that there were only six doctors in Pendleton and nine in Bracken, has effected the organization of a combined society, the Bracken-Pendleton Society, with a membership of fifteen, which is now a live and active society.

The membership in the district is as follows:

Boone	4
Bracken-Pendleton	15
Campbell-Kenton	96
Fleming	9
Grant	12
Harrison	16
Mason	13
Nicholas	4
Robertson	3

The membership in the District this year is 172 as compared with 166 last year.

Our District Society known as the Licking Valley Medical Society has held its regular quarterly meetings. The programs have been excellent and the discussion lively. We have had an average attendance of forty-one which is about twenty-five per cent of the membership in the District.

NINTH DISTRICT

S. C. SMITH, Ashland: We are pleased to report a greater gain in membership for the Ninth District than any of the other ten districts in the state. Out of a potential membership of 185, the Ninth District has 118 members. Our membership last year was only 95.

Greenup and Pike Counties have made the most notable gains in membership. Lewis and Elliott are the only two counties in the District that lost in membership. All the counties with a larger membership hold meetings either regularly or sporadically.

One of the great difficulties in this District is keeping the county membership interested to the point of attending meetings regularly. Some of the blame can be laid to the program committees of the various societies for their failure to get up interesting programs for each meeting. A number of doctors in this District are either ill and out of practice or have reached a state of infirmity due to age or disease, which limits their practice and naturally causes them to lose interest in society work.

Altogether, the District is in better shape than in previous years, and we are expecting greater things for 1938.

A few years ago we organized there a district society and we had regular programs, and some of the members were not satisfied with the programs, so I asked them to have their own program committee. This past year the program committee failed to function. Dr. Keith was willing to put on a program up there. He wrote me, and I put the letter in the hands of the officers and asked them to contact him and arrange for a program and a meeting, but nothing was done about it, so it looks as though I will have to take the responsibility of arranging programs hereafter.

TENTH DISTRICT

C. A. VANCE, Lexington: The Tenth District has 251 paid-up members this year. This equals the largest paid-up membership we have had in this District. The county society register is as follows:

Bath	6 members
Bourbon	18
Breathitt	7
Clark	17
Estill	6
Fayette	105
Jessamine	7
Lee	3
Madison	33
Menifee	1
Montgomery	9
Morgan	3
Owsley	2
Powell	2
Rowan	6
Scott	14
Wolfe	4
Woodford	8

There are approximately 64 non-members in the District. Some of these are eligible and some are not. Every effort has been made to get the eligible ones into the State Association, and the list of non-members this year is less than it has been for several years.

Bath, Estill, Jessamine, Lee, Menifee, Morgan, Montgomery, Owsley, Rowan, Powell, Wolfe and Woodford Counties hold occasional meetings.

Bourbon, Breathitt, Clark, Fayette, Madison and Scott hold regular meetings, and these are all well attended and the programs are instructive.

Breathitt, Estill and Menifee Counties have as members of their societies all doctors in the county.

The summer district meeting was held in Lexington on June 17th. There were about 125 in attendance and more than 100 at the dinner. It was a fine meeting and much enthusiasm was shown.

The Tenth District has suffered by death the loss of the following doctors since the last meeting of the State Medical Association:

Arch H. Barkley, Lexington, June 1, 1937.

N. L. Bosworth, Lexington, Nov. 20, 1936.

E. C. Gevedon, Morgan County, March 15, 1937.

W. B. Gossett, Lexington, Dec. 21, 1936.

Mary C. McCellan, Lexington, Dec. 21, 1936.

Harry L. Morgan, Morgan County, Feb. 2, 1937.

H. G. Sandlin, Richmond, Dec. 20, 1936.

These men were all active in their county societies and all were highly respected by their associates in practice and their communities, and they will all be greatly missed.

The Secretary of each county society is the most important officer in the society, and I would urge again that the members select the best man available for Secretary. As you all know, I am especially interested in the welfare of the individual county society, and I believe that the upbuilding and welfare of the State Association rests with the county society, so I would urge that everything be done to advance the well being of the county society.

ELEVENTH DISTRICT

H. K. BUTTERMORE, Liggett: The membership of the Eleventh District shows an increase in membership over the preceding year. The District as a whole continues to show an increase in the number of meetings, also an increase in the attendance.

During the flood the medical profession of Southeastern Kentucky took an active part in giving their time and their services to help the flood victims. Harlan equipped and sent a Red Cross Unit to Louisville which rendered valuable service to the flood victims.

The post graduate course under the guidance of our State Association is rendering excellent service to the doctors, and we should continue to select the best qualified doctors among our profession to deliver these courses.

The doctors in the Eleventh District are very much opposed to state medicine in any form, and we are hoping this will be like other parts of the New Deal—soon forgotten. (Laughter).

PRESIDENT NORTHCUTT: Reports of Delegates by Counties.

BOYLE COUNTY

P. C. SANDERS, Danville: The Boyle County Medical Society has had a very enjoyable and prosperous year. We alternated our programs, one meeting using local physicians or dentists, and the next meeting an outstanding man in his particular field from some other city. I say dentists because every dentist in Boyle County, and there are six, is a member of our society with all the privileges of physicians except election of officers or on matters concerning physicians only.

We had two programs this past year composed entirely of outstanding motion pictures, which proved to be very popular.

We now have fourteen members in our society, and only two practicing physicians who are non-members, and one homeopath, one osteopath and two chiropractors who of course cannot be members.

Our Councilor from the Sixth District, W. B. Atkinson of Campbellsville, has visited us at three of our programs, one of which was a joint meeting of the Sixth and Seventh Districts, which was held at Old Crow Inn early last spring. Dr. Atkinson—well, he is just one of the world's best: physician, councilor, or gentleman, either trump you want to call.

Our Society lost one of its best physicians and members during the last year, Dr. R. L. Foster of Danville. He was President of our society during the year 1935 and was a fine physician and loyal to the profession and his friends. He will be missed.

SECRETARY McCORMACK: How long have you been Secretary, Dr. Sanders?

P. C. SANDERS: About fifteen years. (Applause.)

CAMPBELL-KENTON COUNTY

LUTHER BACH, Bellevue: The Campbell-Kenton County Medical Society has had twenty regular meetings during the year, meeting the first Thursday of each month in the St. Elizabeth Hospital at Covington, and the third Thursday in Speers Memorial Hospital, Dayton.

This has been probably the best year of our organization. Our programs have been interesting, we have had some of the best scientific programs that I think we have ever had, and our attendance has been better, on the average, than we have had in any previous year.

Our programs are made up one year in advance, and an effort is made to cover the various phases of medicine. During the past year we have had papers on medical economics, pediatrics, medicine, eye, ear, nose and throat, anesthesia, allergy, surgical and medical topics; pathological conferences have been held in connection with the hospitals in which we met. We have had movies on various medical topics, one on cardiology, one or two on pediatrics.

Like many of the other sections of the state, the experience of the flood caused considerable disturbance in our section. The three hospitals in Campbell-Kenton County were flooded. It was necessary to evacuate the 115 patients from the Speers Hospital to the high school building. Emergency and contagious hospitals were opened in the school buildings. A meeting of the Campbell County physicians was called while the flood was at its height before we were able to get communication with the Kenton County people. The physicians volunteered to a man, I think, rendering their services in these various hospitals. We divided our time, some going to the emergency hospitals, some to the contagious hospital, and some to the hospital that had been evacuated; others went to the clinics where the typhoid vaccine was given to as many as would come in.

No charges were made to those who came to these clinics.

As quickly as possible a meeting was called in Kenton County at the St. Elizabeth Hospital, where the conditions were discussed from the society standpoint. Due to the fact that Kenton County had a full-time health officer, their condition was already taken care of better than in Campbell County.

We have a paid-up membership of 96. We have had one death during the year, J. M. Digby of Newport.

SECRETARY McCORMACK: I want to express congratulations especially to the physicians of Campbell-Kenton County for the remarkable work done during the flood. I had a telephone report from those counties every night, as I did from almost all the other counties, and at no time did they ask for anything except biologicals, and they did everything that could possibly be done to render less serious the effects of the flood.

CHRISTIAN COUNTY

D. M. CLARDY, Hopkinsville: We hold our meetings regularly, every month, the third Tuesday. We have thirty-six paid-up members.

CLAY COUNTY

J. L. ANDERSON, Manchester: We have only seven physicians in all in Clay County. Six of them pay their dues every year. There is one old physician eighty-eight years old who does not practice. The six physicians who are active in the practice of medicine, are all on good, friendly terms. We don't have any meetings unless we meet on the street or on the public highways, but we are sociable and friendly.

There has been quite a bit said about the flood. I would just like to let the profession know that those six physicians in Clay County who are in active practice were not asleep during those distressful days. We opened our doors, we offered to take into our homes and other ways 200 white flood sufferers and 50 colored. We made up a good deal of money, I don't know how much, up in the hundreds, and sent several loads of coal, as Clay County is the coal section of the State of Kentucky, and we helped out that way.

We have an all-time health officer in Clay

County. I want to say to this Association that we don't have any friction whatever. We cooperate and work together. And we are glad to do that. We have had to have his help because we needed it. We don't have many doctors and we have all we can do. Very often we have to call on the public health officer to help us out because we can't take care of it all.

Since our last meeting during the winter, in the early part of this summer, we had a rather serious, though small epidemic of spinal meningitis, eight cases in all, I believe, with three recoveries. I guess, considering everything, and that we had nobody experienced in that line of treatment and in that line of work, we got along very well.

CRITTENDEN COUNTY

T. A. FRAZER, Marion: We have only six doctors in our county and five are members of the county society. We have one man that we can't get interested.

We have organized a Tri-County Society consisting of Caldwell, Crittenden and Lyon Counties. We have four meetings a year. A delegation from Trigg came over to our meeting at Kuttawa Springs and asked for admission into this society. We had forty-six doctors at that meeting. We had a meeting at Cadiz of about fifty-two doctors. We only had three regular meetings. We had twenty-four present at the organization. Our members are attending this District Society and getting a great deal out of it. We have had splendid programs. We had one meeting put on strictly by Louisville doctors. They were the best papers and the best discussions that I have heard in any medical society anywhere.

CUMBERLAND COUNTY

H. G. DAVIS, Marrowbone: We have only five in our county, all members. The youngest man is about fifty years old but we are well organized. We are sorry to say we can't have regular meetings, but I think we are doing pretty well. We all cooperate. We attend adjoining meetings occasionally. We are keeping on.

SECRETARY McCORMACK: Cumberland and Logan are two of the counties that have recently created full-time health departments.

FAYETTE COUNTY

JOHN W. SCOTT, Lexington: Fayette County has 108 members, which is, I think, the highest number that it has ever had. It has every qualified physician, I believe. Fayette County has had, from time immemorial, a board of censors which has to be passed before membership is granted in the society. We feel that we don't subscribe to the idea of getting them in and trying to reform them; we try to reform them before they come in.

We have had the distinction during the past year of having two of our members signally honored by the general profession of the United States, one of them Dr. Bradley, who was the President of the American College of Physicians, who not only did us great honor in being elected to that presidency but also in his conduct of the office, endeared himself to every member of the College and particularly to every member from the State of Kentucky. I mention him first because I feel that no honor that is granted by surgeons is commensurate with that which is granted by medical men. (Laughter). But Dr. Fred Rankin attained great honor in being elected President of the Southern Surgical Association and also President of the Southeastern Surgical Assembly.

A thing that is notable in the action of our society in the last year is that the portrait of Daniel Drake was purchased by the society. It was felt that the society could do nothing better with its funds than to do something that would emphasize, one might say, the spiritual rather than the material in the practice of medicine. We had available to us a portrait painted by a very distinguished artist of the time, about 100 years ago, and it was purchased and started a movement in the society to gain portraits of distinguished members of the society in the past. I have to admit that that movement has not progressed very far, but we at least have a nucleus and we feel that it is a step in the right direction and is the proper use of the funds of the society. (Applause.)

FRANKLIN COUNTY

J. G. SOUTH, Frankfort: There have been eight regular and two called meetings of the Franklin County Medical Society since the last state meeting. The society adjourned for the summer months.

Members of the society have been giving full cooperation to the King's Daughters in their effort to build a new hospital. The erection of this hospital will be begun October 1st of this year and when it is completed it will fulfill a long-felt need for larger hospital facilities in this area.

The society is also cooperating with the Frankfort Rotary Club and the Franklin County Red Cross in establishing a venereal disease clinic.

As a physician, the writer wishes to congratulate the physicians of Franklin County on their valiant and courageous work done during the flood of last January. Many were driven from their homes, and yet when their families were safely harbored with relatives and friends, the physicians returned to the refugee centers and there served day and night. One of our physicians while responding to calls was compelled to lie flat in a boat to avoid striking the electric and telephone wires overhead. Every doctor suffered heavy losses financially during that historic flood.

Out of town physicians reading scientific papers before the Franklin County Medical meetings during the past year were Drs. J. Murray Kinsman of Louisville and E. H. Ray of Lexington.

The officers of the Franklin County Medical Society for the past year were:

E. K. Martin, President.
W. P. Blackburn, Vice-President.
Grace R. Snyder, Secretary-Treasurer.

The society numbers twenty members. No new members were added during the past year and none were lost.

Last month the society entertained the Fifth District meeting. A reception was held in the afternoon at the home of Dr. and Mrs. John Stewart and a banquet was held at seven p. m. at the club house of the George T. Stagg Distillery, after which the scientific program was given. About seventy-five were present, and all agreed that it was the finest district meeting ever held.

Franklin County now has a Woman's Auxiliary to the County Medical Society. This organization has now grown to number thirty-five members. The enthusiasm and assistance of these splendid women is proving not only a source of help but of great inspiration.

GARRARD COUNTY

J. E. EDWARDS, Lancaster: Garrard County has only five physicians who are members of the society. We have met rather irregularly, as some of the other societies have this year. Like some of the others, too, we are very much opposed to state medicine and when any opportunity presents itself to speak against it we take it.

I am mightly glad to have the definition of the President on state medicine. Many of us haven't thought very much about what state medicine is and what it means. State medicine operates when the policy of any medical institution is outlined by a lay president or political organization. I think we should begin to open our eyes and look around with respect to state medicine.

GRANT COUNTY

C. M. ECKLER, Williamstown: Grant County wishes to report again 100 per cent enrollment and 75 per cent attendance. We meet the third Wednesday in each month and have had twelve meetings. We have eleven physicians in the county, nine of whom are active and two are partially disabled on account of physical impairments. We have had no additions to our number and regret to report the loss of one, Dr. K. L. Stratton, who left us to go to Alexandria. He is a splendid young physician and our loss is Campbell County's gain.

Our health unit, under the direction of Dr. N. H. Ellis, all-time heatlh officer, is working smoothly and efficiently, and I might add has the cooperation of every physician in the county.

We have passed through a widespread epidemic of measles with no deaths, also an epidemic of whooping cough of considerable magnitude, with no mortalities. We have had one case of infantile paralysis and one death. We report one case of typhoid and two of scarlet fever. There have been no maternal deaths, no puerperal sepsis, and two still-births.

During the winter we had more pneumonia, with a greater mortality than last year.

On June 10, the Licking Valley Medical Society met with us with seventy-five doctors present. This was a most enjoyable and profitable meeting. Drs. Horine, Bruce, and Turner, all of Louisville, were the speakers on this occasion, each giving an unusually good discourse in his respective line. The out-of-town speakers for the year were. Drs L. C. Hafer, de Villez, C. N. Heisel, Ed Northcutt, Flax, all of Covington, and R. Hayes Davis and Irvin Abell, Jr., of Louisville.

I am pleased to say that every doctor in Grant County is wide awake, alert, and on his toes to give our people the kind of service they justly deserve. Every doctor has a good business and is prosperous. The morale of the profession is good. The fellowship is splendid. As a whole we are a group of good friends and good fellows. We revere the past, work in the present, and visualize the future.

We still believe that Grant County is a mighty good place to live and practice medicine.

SECRETARY MCCORMACK: This is the one county, Grant County, that has never failed to have its minutes ready and reported promptly to the JOURNAL.

GREENUP COUNTY

H. T. MORRIS, Greenup: I have no written report; in fact, I didn't know that the regular delegate would not be here until eleven o'clock last night. I can only say that we have in the county ten doctors, and as well as I can remember, eight of them are members of the county medical society and we are supposed to meet once a month, and do, most of the time.

SECRETARY MCCORMACK: If Dr. Morris weren't so modest he could tell some mighty good work done by his profession during the flood, and since then the Health Department has saved his straw hat. (Laughter.)

HARDIN COUNTY

C. F. LONG, Elizabethtown: We have a membership of twenty-two in Hardin County this year; that is three more than we had last year. There have recently been two new doctors come to Elizabethtown. One of them is fixing to build a nice office down there right across the street from me. I don't know whether I'll be able to get back next year or not.

I called Dr. McClure before I started up here and said, "Am I a delegate to this meeting?" He said, "Yes." I said, "What do you want me to tell them?" He said, "Tell them that we are still fighting state medicine in our feeble way."

State medicine hasn't bothered us down that way. It seems the doctors in Hardin County do everything that they are called upon to do, whether they get paid for it or not, of course we like to get the pay.

When the flood came along we took care of about 650 refugees from Louisville and gave them typhoid shots, but we didn't do as well as some of you other people; we put in a bill to the county fiscal court and hope they are going to pay us a little something for it. If we don't get it we have done it free anyway.

HARLAN COUNTY

CLARK BAILEY, Harlan: Harlan County has between forty and fifty doctors. We have the highest paid up membership this year that we have had for several years. We have our regular monthly meetings except during the summer months. During the flood Harlan County sent a complete unit to Louisville, with their own lights, their own food, their own boats, everything that was needed, and a great many of the doctors were also sent along on the special train.

We had a peculiar situation up there this year for the second year in our meningitis epidemic. Through popular subscription enough money was raised to erect an emergency hospital just for the treatment of meningitis. All cases of meningitis were segregated in that hospital, and as a consequence we had a very low mortality rate. The cases were well handled, and we feel that we prevented a further spread of the epidemic through the segregation of the cases.

We had one meeting this year sponsored by the councilor, an all day meeting, and the local doctors had charge of the program; it was a very helpful thing to our members.

Our society wishes to go on record as being unanimously opposed to any form of state medicine.

We had one death this year—one of our oldest and most beloved members, one who was one of our earliest practicing physicians, Dr. N. S. Howard. He was seventy-seven years old when he died and yet he was one of the most active members of the society.

We have a minimum of malpractice suits in our industrial section and a feeling of general good fellowship in our society.

HARRISON COUNTY

W. B. MOORE, Cynthiana: The Harrison County Medical Society reports sixteen members this year, one physician not belonging to the society because of non-payment of dues. We lost one doctor by death.

Twelve meetings were held and eleven papers read. A number of case reports were made at each meeting. One essayist who lives in Cincinnati was in Europe at the time he was on the program.

We usually have two or three visiting doctors to read papers during the year, and on such occasions we have visitors from adjoining counties.

Our attendance is always good, perhaps because all but four of our doctors live in the county seat where our meetings are held. Our largest attendance is at the annual meeting in December, when we elect officers and have a guest speaker. The President-Elect of the State Association is always invited and usually attends this meeting. This meeting is largely a social affair and seems to be thoroughly enjoyed.

We have our meeting on the first Monday night in each month and the record shows that we have not missed holding a meeting for twenty-five years.

PIKE COUNTY

HENRY KAMINSKI: Pike County has been very active in the last year. We have the largest membership we have had for some years. We have had very many interesting discussions and case reports and we had one general meeting, with an invitation to physicians from the other states and other counties. The men are getting along very nicely.

JEFFERSON COUNTY

A. CLAYTON McCARTY, Louisville: I have some temerity in speaking after doctors who have mentioned missionary work. In New Haven for many years they called the obstetrical society the Ladies' Aid Society, and I see now we are going to have to have a missionary society in Jefferson County to get everything done that is needed. (Laughter.)

The society is going along nicely under the presidency of Dr. Barnett Owen, who is unable to attend this year, I think the first time in many years that he has not been here.

Members don't mean everything, but we

have the largest paid-up membership we have ever had. Dr. Lukins spoke of 449 in the Fifth District. We have some 420 paid up in the Jefferson County Society, entitling us this year to seventeen delegates, more than we have ever had to the House of Delegates here.

We have changed our elections just a little bit, and the routine in the Jefferson County Society. We now have a President-Elect, following the custom of the parent organization, the American Medical and the Kentucky State Medical Associations, and we also have in our constitution now a provision that makes it possible to return delegates to the House of Delegates after they have served a two-year term, which we hope will make some of our men come to you better informed from year to year and of more use to you.

Again the subject of a building for doctors which may or may not house the Jefferson County Society is on the minds of some of the doctors in Louisville, and we are starting this week in the columns of the Courier Journal under the Jefferson County Society, in conjunction with the Health Department, a column of education in medical matters. If any of you desire to contribute to this an article of 150 words, if you will send it down we will try to see that it is properly edited and put in. These will be daily articles.

Our programs have been scientific, and we have had many fine guest speakers. This fall there are others to come and we invite you to come down and hear our guest speakers if you are not of a mind to come and hear our home talent. The programs are in the Journal every month and any of you who would like to have a program sent to you personally let us know and we will be glad to see that you get it.

We have felt rather proud of Dr. McCormack and Dr. Abell in their representation of our Society in these national organizations and have had some dinners in Louisville given mostly by the Jefferson County Medical Society, which we feel is our tribute to them and their tribute to us. (Applause.)

The Physicians' Exchange, the Nurses' Directory and Supervision, the Part Pay Plan, the Credit Rating Bureau, are functioning nicely now and are agencies of great help to the progress of our society.

During the last year, under the auspices of the society, we have adopted a hospitalization plan which makes it possible for those who receive its benefits to choose their hospital and choose their doctor. I think that is another step, as Dr. McCormack has said, in serving the community and keeping off state medicine.

Lastly, at a little later date when it is proper we will extend to you the invitation to come to Louisville next year, but we hope to mention that to you now so you can be preparing to come down, and maybe we can get some Major League recruits from China and have a real missionary session for you.

KNOX COUNTY

W. P. CLIFTON, Barboursville: Knox County has ten doctors, nine of them active practicing physicians who belong to the local medical society. We have meetings every two months and the members give papers, and occasionally we have an outside speaker.

I might say that at the beginning of June of this year in Knox County there have been some practices brought up that have been considered to be unethical, I might say following the rule of socialized medicine. They have been referred to the Committee on Public Relations, and I think that will be brought up later.

LETCHER COUNTY

R. D. COLLINS, Whitesburg: Letcher County is situated in Southeastern Kentucky. We have a population of around 40,000 people, an area of 400 square miles. The county is very largely industrial, coal mining. We have twenty-two practicing physicians in the county, with twenty-three members paid up in the society—one, Dr. N. H. Short, Norton, Virginia, an eye, ear, nose and throat specialist, practices at one of our hospitals and is a member of the society.

We have had regular monthly meetings except during July and August. The meeting time is the last Tuesday night in each month. The attendance has been fair when one remembers that it is very difficult to get leave of absence from the mining camp. Usually the doctors alternate in attending the meetings. Out of the twenty-two doctors, all but three have connections with some mining camp. In order to stimulate attendance we have been trying to have refreshments served at the meetings. This seems to have done some good.

We have outside speakers on various occasions. Dr. Arthur Bach, Lexington, was with us in January. He presented a paper on Hypertensive Heart Disease. Mr. John Yost, Cashier of the Pikeville Bank, gave a most entertaining talk on banking.

Our medical society has been accused by a leading attorney as being the most clannish he ever came in contact with. This was relative to a malpractice suit in which all physicians stuck to the doctor to a man, whom we thought being sued unjustly.

There have been no deaths among the profession so far this year.

Madison County

O. F. Hume, Richmond: We have been very busy here in attempting to make some arrangements to cause you people to have a good time.

I have only a few notes on the Madison County Medical Society handed to me by the Secretary of our society. There are forty practicing physicians in Madison County, thirty-seven paid members and the other three are colored. The society meets regularly every third Thursday each month with the exception of the months of July and August. The average attendance per meeting has been above twenty.

Our programs consist of seasonal papers and discussions by local physicians and out-of-town physicians. I might say at this point that we have had no difficulty in having good medical programs. We usually invite at our monthly meeting some one essayist from out of town and then we have on that same program in addition to the discussion, two other papers by local physicians.

Last December we lost one of the most lovable men we have ever had, H. G. Sandlin, and that is a loss to the State Association as well as to our own society.

We have an active medical society here. and we work smoothly with our county health department. We have a full-time county health department in this county, and I might say that it seems to me wherever you have an understanding in your medical society it is very easy to have a full-time health department. I know that we ran into a few little rough spots with our health department here a year or two ago but we solved them in a very simple manner. We got a committee and simply had a hearing one afternoon and evening, and let every doctor in the county express an opinion about our health department. We consolidated that whole report, took it back to the Madison County Medical Society, and found we were all about of the same mind. It was very easy for us to work out a program for our Madison County Health Department, and if there is the slightest bit of friction here we don't know it.

We have had no scare here in this county, or we haven't discussed it, with reference to state medicine. A year or two ago someone in the relief office wanted some doctor to go somewhere for ten cents a mile or something of that sort and the doctors of Madison County didn't pay any attention to that thing. We have gone on and taken care of our own charity and we think we have done it in a fine way.

I think that is about all I have to report, except let me wish every one of you a happy time here in Richmond. (Applause.)

Mason County

O. M. Goodloe, Maysville: The Mason County Medical Society has the same number of physicians that it had last year, having lost one beloved member, Dr. Lovell Samuel, by death and gaining one new member.

We have followed the policy of having our own members present papers, because we feel this is a distinct advantage to the members. I am instructed to say for Mason County Medical Society that we feel we have members who are due consideration for a place on the state program next year.

The entire society responded to the emergency resulting from the flood, cooperating with the Health Department, with the result that we may say adequate medical and hospital service was available to all and no lives were lost.

We hold regular monthly meetings. However, the attendance for the past six months has been rather poor, and efforts are being made to improve that condition. We had the pleasure of receiving our Councilor, Dr. Hafer, at our last meeting.

McCracken County

Secretary McCormack: I should like to say this before Dr. Higdon starts. The McCracken County Medical Society has done a thing that is worth considering by other county societies. Since the organization of the McCracken County Medical Society they have had two Secretaries. Dr. Reddick was the Secretary for so many years that nobody knows exactly how many, and Dr. Higdon has been ever since and will be until the end of time.

Leon Higdon, Paducah: We have lost no members this year, although practically all of our members had difficulty in the flood, but they retained membership in the county society. We have forty-two members. We meet each month, except in the summer months, and we have continued to follow our policy of having the county society programs made up strictly of members of the society. We feel that that doesn't limit us too much because our district society meets four times a year and we have members from outside the society, specialists, who come in and give us papers there.

The county has approximately six or seven physicians who are not members of the society, but they have retired from active practice.

Montgomery County

Robert G. Hunter, Mt. Sterling: The Montgomery County Medical Society has eight members. There are only twelve white members eligible to the society, and four have as yet not partaken of that privilege

During the last year there has been one new member who has been permanent and one other man who came in and shortly thereafter left the county. There are no deaths or other changes.

One significant thing in the county is that the bids have been let on the addition to our small hospital, which will give us eight more rooms, which will make approximately thirty beds, and that will be adequate to take care of all that comes our way.

We have had some changes in the county department of health, and since then there has been quite a bit more work done.

PULASKI COUNTY

CARL NORFLEET, Somerset: The Pulaski County Medical Society has sixteen members who have paid dues for the year 1937. One physician who has recently located in the county is in the process of being elected to membership. The remaining three licensed physicians who are not members are almost inactive in the practice of their profession.

The Society has had ten meetings this year, which were characterized by excellent programs and good attendance. Last November the society was host to the physicians of about fifteen neighboring counties for a splendid program. This fall we are planning a similar meeting at which we expect to have the Sixth and Seventh Districts and to invite physicians of twenty-odd neighboring counties. At similar meetings at Lancaster and Danville, Pulaski County Medical Society members have attended almost 100 per cent. In this way fellowship between the physicians of Pulaski and neighboring counties has been greatly increased.

The society feels hopeful of eradicating the most pernicious unlicensed practitioner in the county by sheer competition from a splendid young practitioner who has recently located at Eubank.

I wish also to mention that J. B. Scholl of Jabez, Russell County, who was Secretary and President of the Russell County Medical Society for a great many years, passed away and was buried last Monday.

SCOTT COUNTY

F. W. WILT, Georgetown: Out of a possible fourteen members, Scott County has eleven. During the summer months our meetings have been discontinued, but we have had nine regular meetings during the year. We have lost two members who have moved to other counties and have one new member during the year.

WOODFORD COUNTY

GEORGE GREGORY, Versailles: The last meeting of the Woodford County Medical Society was held in Midway, Kentucky in November, 1934. I read a paper at that meeting. I was the only man present. (Laughter). Dr. Anderson, in whose office the meeting was held, came in just as I finished reading the paper and decided it was very good. However, we do have some activity, although we have no regular meetings. We have a very splendid little hospital of some twenty-five beds in Woodford County, with splendid X-ray equipment and other things in comparison. We have a clinic at the Woodford Hospital in which about four physicians participate, giving their services once each week to the poor people of that county. We have reached about 400 families through that means. In addition to that, there is another clinic in the city for underprivileged children, conducted by physicians, and there is an average attendance at that clinic of approximately twenty children per week. That is held once each week throughout the year.

We have eleven physicians in the county, and seven of them, I believe, have paid their dues to the State Medical Association.

PRESIDENT NORTHCUTT: Next is the report of the Medico-Legal Committee, Dr. Lukins, Chairman.

REPORT OF THE MEDICO LEGAL COMMITTEE

J. B. LUKINS, Louisville: The Medico-Legal Committee is glad to report that during this year there have been fewer suits filed than for any year in the past ten. However, it is a phase of our annoyances that has always been spasmodic, and no one can foretell when new suits will crop up.

Since our last report nine suits have been filed. I might say that is half as many as last year. There were eighteen last year and eighteen the year before. There have been any number of threatened cases, besides several threats made as counterclaim when the physician attempted to collect his fee.

Of the old cases of last year, four are still pending, two have been settled out of court, six have been won by trial, seven have been dismissed by the court, one was lost and a verdict obtained against the defendant. This case was for the death of a child who died under an anesthetic during a tonsil operation. It was not handled by this committee or by our lawyers, but by the lawyers for an insurance company. We were advised of the suit when it was first filed, and gave suggestions for the first trial. At this trial a verdict was obtained for the defendent. This was taken to the Court of Appeals without our knowledge, in fact the defendant doctor and his lawyers gave us no information whatever following the first trial. The case was sent back to the lower court for retrial, where a verdict was obtained against the doctor. By the proper information, by cooperation with our committee and with our lawyers, we believe that it was possible for an entirely different verdict to have been reached.

It is very gratifying to see the decrease in the number of suits for bad results in fractures. This is no doubt due to more careful handling of these cases, and the more general use of the X-ray, which has been advocated by this committee for many years.

Our records show considerable increase in cases from bad results following the intravenous administration of various drugs (I might say in the beginning this was practically always due to some arsenical preparation, but in the last two years that has not been the case; we have had at least two cases due to the administration of glucose in which the solution was given too rapidly and the arm became edematous and gangrenous); also the indiscriminate use of drugs previous to anesthetics apparently is causing considerable trouble.

The greatest need at the present time is for more complete information from the doctors who are sued, and for them and their lawyers to keep us advised of further steps as to the progress of the suit. Experience shows that when a suit is first filed the defendant becomes more or less excited and he is not only willing but anxious to advise us about it and usually gives us fairly complete information, but if any of you have had any experience in courts and with lawyers you know that things are not settled in a day or a week; they usually drag out many months and sometimes two or three years. I have made this statement before, but it is still very true, that this is to our advantage. The longer we can postpone these cases, the more we can drag them out, the more apt they are to be lost and dismissed; that is the plaintiff, the person who brings the suit, gets tired, doesn't get any money, he has to put a little to pay his lawyer, and so it is to the doctor's advantage to have these cases prolonged. But that is where the defendant fails to keep us completely advised as to what is going on. His local lawyer usually handles these cases from this stage on and we are not completely advised of the different steps they have taken in the defense of these suits.

We wish to express our gratitude to the many members of the profession who have so promptly responded to our request to testify on behalf of their fellow practitioner in the trial of these cases. Without this cooperation the results obtained would be impossible.

Our attorney, Mr. Roy Curtis, continues to give untiringly of his services and advice in all cases in which he is consulted. His work is invaluable and he deserves the gratitude of the entire profession.

Samuel E. Munson, Springfield, Illinois: May I ask a question of Dr. Lukins? Do you furnish defense for the members of your Association who are sued for malpractice?

J. B. Lukins: I might say that all this has been written to the Illinois State Medical Society. Your Secretary wrote me a letter two years ago and I wrote him in detail how these cases were handled. We do furnish defense from the beginning to the end, even through the Court of Appeals and back often to the second trial.

Secretary McCormack: Where the accusation is unjust.

J. B. Lukins: That is right. The clause creating the Medico-Legal Committee used this language very wisely: "To investigate and defend all unjust malpractice suits." So far all of these suits have been defended. We do pay the fee for a lawyer and pay all his expenses, we pay the court costs, we pay the stenographer, but in case damage is obtained we do not pay that amount.

Samuel E. Munson: Have you had a communication from the Secretary of the Illinois State Medical Society recently?

J. B. Lukins: No, sir.

Samuel E. Munson: You will probably have to discontinue the legal defense of your members.

Secretary McCormack: Not under our plan.

J. B. Lukins: Why, doctor?

L. H. South, Louisville: On account of the American Bar Association?

Samuel E. Munson: Yes.

Secretary McCormack: We have had that up. Our plan is foolproof and has been from the beginning. Our Bar is in favor of it just as much as anybody else.

Samuel E. Munson: That may be true We have always furnished a paid attorney to defend any of our members against malpractice suits where the action, in the judgment of the committee, is clearly not one of criminal intent on the part of the physician sued. Because the committee employed an attorney to defend the physician sued, we were advised by the committee on ethics of the American Bar Association that we were practicing corporation law. When this question was raised, Dr. Woodward, the legal adviser of the American Medical Association, advised that we discontinue this plan of defense.

The House of Delegates of the Illinois State Medical Society, at their last meeting, voted to discontinue this plan of medical defense. At present, no definite plan for the future has been acted upon by the Council of the State Society.

Following this action of our House of Delegates, a question came before the Council of the State Society from one of our counties, on account of the lodges of the National Order of Eagles furnishing medical service for their members and families, to be paid from their dues. Under the decision of the Supreme Court of the State of Illinois, this was considered corporate practice of medicine, which is not legal. The Council for the National Order of Eagles has promised that they will withdraw this contract for medical care.

Secretary McCormack: We are lucky about that, too; we don't have any Eagles in Kentucky. Ours are all blackbirds and partridges.

Samuel E. Munson: I just wanted a word that I might take back.

Secretary McCormack: Our plan works.

J. B. Lukins: As far as I know the legal profession is not opposed to our plan at all. Mr. Curtis is one of the high ranking members of the legal profession and we have had no objection from the lawyers whatever. In fact the majority of the lawyers in Louisville and the other county seat towns, that is the high class lawyers, refuse to take the average malpractice suit when they are approached.

Samuel E. Munson: On the other hand, I don't think it will prevent you having trouble with the national bar association, because the Committee on Ethics of the legal profession recently have decided that our defense plan is corporate practice of the law.

Secretary McCormack: Ours isn't. We don't do any practice. We furnish no attorneys.

Samuel E. Munson: You don't furnish attorneys?

Secretary McCormack: No. We give the doctor the money to employ his own attorney.

J. B. Lukins: Whenever a doctor is sued, the first thing we ask him is to suggest a lawyer in his home town to defend this case, and Mr. Curtis advises with him.

Samuel E. Munson: We did furnish legal defense.

Secretary McCormack: We don't do that; we just help our fellow furnish his own.

Samuel E. Munson: I would just like to say that our attorney, Dr. Rollins of Chicago, who is very highly respected and a well-known attorney throughout the United States, made a talk before the Council and said that he wasn't really in accord with the decision of the Committee on Ethics of the legal profession and that in thirty-five years, about twenty for the State Medical Society and other organizations, he hadn't felt at all dissatisfied because he had accepted this form of practice; in other words he is not in accord with the findings of the Ethics Committee of the National Bar Association.

Secretary McCormack: The decision of the Committee of the American Bar Association was absurd on the face of it. It was done with entire lack of the ordinary judicial procedure. There was no hearing of anybody except some one man who objected from Ohio. It didn't take into consideration any of the plans and made an omnium gatherum decision that was ex parte and didn't have any binding effect on anybody, but it doesn't affect us at all. Our State Bar Association has already decided that.

President Northcutt: We will next have the report of the Auditing Committee, Dr. Ray, Fayette County.

Thomas J. Ray, Lexington: Mr. President your Auditing Committee has carefully examined the accounts of the Secretary and of the Treasurer and finds them correct. We find that the expenditures are considered wise and necessary.

Ernest B. Bradley, Lexington: I move that the report of the Auditing Committee be approved.

The motion was seconded and unanimously carried.

President Northcutt: Committee on Medical Ethics, Dr. Smith, Chairman.

L. Lyne Smith, Louisville: Your Committee on Medical Ethics has had no cases referred to it this year and consequently has no report.

President Northcutt: Committee on the Journal:

Report of Committee on the Journal

In order to arrive at a cross-section of opinion, your Committee has solicited comments from very many of our members. The following comprise the more common criticisms, together with recommendations for betterment of the Journal.

1. Typographical errors frequently appear in published articles and discussions, despite the fact that the proofs are corrected by the authors and discussers.

2. Occasionally the name of a physician not the author of the article is erroneously inserted at the close of the article.

3. The Editor refuses to publish bibliographies. This, your Committee thinks, is a serious injustice to the reference authors as well as a handicap to the reader who may desire to read the reference in detail.

4. Articles, transactions of state and county societies, are not always published in the order of their receipt. While we do not feel that the Editor should be held too close to such a rule, it should be given serious consideration.

5. Frequently articles read before private medical groups are published in the Journal. This may or may not cause some delay in the publication of more legitimate papers. The explanation has been given that doctors from

these groups pay for professional card insertions in the JOURNAL and thereby help defray the expense of editing.

In Dr. C. A. Vance's Council report at the Paducah meeting was the following recommendation: "The Editor has recommended that an Editorial Board be selected for the JOURNAL and the Council has provided for such a Board, to consist of the Chairman of the Council, the Councilor of the Fifth District, and two members to be selected by them."

In the report of the Secretary at the Paducah meeting was the following statement: "I think the recommendation of the Council in its report, when adopted by the House, providing for an Editorial Board will be of very great assistance in increasing the value of the JOURNAL.

The report of the Council, without reservation, was adopted unanimously.

Your Committee feels that the activities of the Associate Editors, while beneficial to the JOURNAL inasmuch as they contributed articles of an historic nature, were inadequate since they did little or nothing to improve the JOURNAL'S editorial policy, nor did they add to the physical appearances of the JOURNAL.

If a full-time directing Editor, a doctor of literary bent, with a paid secretary, could be procured, one who has time to personally review and edit the articles; if adequate advertising could be secured; if space could be given to personal announcements, and a portion to a query column; if the style, make-up and printing of the JOURNAL could be improved, the value of the JOURNAL would be materially enhanced.

Furthermore, if this could be done we believe the JOURNAL could be made more scientific without decreasing its practical value and the JOURNAL would compare favorably with the outstanding state journals.

Respectfully,

George H. Wilson,
Uly H. Smith, Chairman.

PRESIDENT NORTHCUTT: There are some recommendations that this report made. Do you want to consider them now?

JOHN W. SCOTT, Lexington: It seems to me that they ought to be considered now and that there is not anything that this House of Delegates can better do than discuss the KENTUCKY MEDICAL JOURNAL. I think, for my part, that these points are very well taken. To my mind it might be summarized by trying to make the JOURNAL a better scientific journal and less, in the good sense, a medium of propaganda of the Kentucky State Medical Association. In other words, the leading thought in respect to the JOURNAL might be, "Is this article one that is going to be useful," rather than, "Should we publish an article from such-and-such a county society or such-and-such a man," or some other consideration. If the material in the JOURNAL stood on its merits as to whether it was worth while for somebody to read or not we might have a more scientific JOURNAL. I know it is difficult to publish the organ of an association without making somebody unhappy about it. At the same time, I have a feeling that this JOURNAL of ours could be raised to a higher plane scientifically; I don't mean ultra-scientifically or over the heads of many of us who think of ourselves as the boys in the trenches, but still of good scientific and practical value, and it would so sell itself to the profession that these other difficulties of keeping everybody happy by the means that are being used would become secondary.

PRESIDENT NORTHCUTT: Then do you make a motion to approve either one of the recommendations?

J. W. SCOTT: I move that the report be approved and that the recommendations as far as possible be carried out.

PRESIDENT NORTHCUTT: Then having the JOURNAL contain strictly scientific papers would be the duty of this Committee that you are talking about.

J. W. SCOTT: I think that is the purport of Dr. Smith's report. I am just endeavoring to give my slant on what he has already said much better than I have said it.

The motion was seconded.

SECRETARY MCCORMACK: Before you vote on that motion I want to call your attention to just the difference between two policies. Of course it is your JOURNAL and whatever you say is going to be done with the JOURNAL. There are two policies to be pursued. We have pursued the policy of publishing every paper read before the State Association and its discussion, and of publishing every paper that is read before a county medical society that is considered by that society as worthy of publication, leaving that to the judgment of the society, and they have all been published, with one exception. In thirty years there has been one lost, and that is the only one that hasn't been published that has been sent in by a county society as worthy of publication. There are a great many papers read before the county societies that are worthy that are not sent in, and I think a great many others that are not sent in.

That has been an expensive policy, in a way, because sometimes we would have published the JOURNAL easily within our income if we had excluded from it enough articles to bring it down to the income of the JOURNAL.

In the report of the Council, which you have already adopted, you have adopted the policy of continuing the publication of every paper that is sent in by the county societies as worthy of publication. That hasn't been with any idea of making everybody happy. It has been with the idea that the JOURNAL is the JOURNAL of the whole profession of the state and that it ought to be a reflection of the professional opinion of the state, and neither I nor the several Councilors for the Fifth District, or for the Third District when we were down in the Third District, have felt that we had the right under the continued instruction of the House of Delegates to discriminate between articles sent in with the approval of the county societies.

Personally I want to say to you very frankly that I believe that is the best policy. I believe we have made more progress, I believe we have brought out more new essayists and have had more interest in our JOURNAL because every doctor in the state has known that the JOURNAL was his, that it was open to him and whatever he wrote or thought about any subject, if he read it before a meeting of his county society and it was approved for publication, could find a place in the JOURNAL. I still believe that is the best policy.

On the other hand, we have in the JOURNAL of the AMERICAN MEDICAL ASSOCIATION the greatest scientific journal that is published. It is available to all of us. We have a smaller number of readers of that publication in Kentucky in proportion than they have in most states. I am sorry for that because I believe it is the greatest continuing source of reliable information of scientific nature in the world.

My idea has always been that the JOURNAL of the Association is important from two viewpoints: first, that through it the members of the profession in Kentucky have the opportunity for an expression of their views on whatever scientific or medical economic or sociological or other question arises that meets with the approval of their county societies; I think it is in accord with our democratic principle. That has not been the policy of many journals in the United States. It can't be the policy in the large states like Illinois, for example, because of course if they published all the papers read before the Chicago Medical Society and its numerous branches they would have to publish them in about eighty-eight languages in the first place, and they would publish more pages than there are in the second place. If that historic policy which has always been the case is to be changed, I think it ought to be done with due deliberation, and of course that is entirely a matter to be determined by the Association.

Following the action of the House of Delegates last year, Dr. Lukins, the resident Councilor, and Dr. Vance and I met and selected Dr. Horine and Dr. Hall as the other two members of the Committee, and they have been very active in their advice to us this year.

We have been unfortunate in several respects in regard to the printing of the JOURNAL because of breaking down of presses, labor troubles, and things of that sort that have given us a great deal of anxiety. On three different occasions we made investigations as to having it printed elsewhere, and the difference in cost would be so great as to be prohibitive with our present income. We are doing our very level best with the Cooperative Medical Advertising Bureau to secure advertising, and have increased the advertising. We are the only journal in the United States (and for this we were quite severely criticized during Dr. Simmons' lifetime constantly) that pays for the publication of the journal from the advertising income. Dr. Simmons said it ought not to be done, that at least two-thirds of the cost ought to come from the other income of the Association, but we didn't have that other income so we couldn't do it.

There has been no publication in the JOURNAL of any article read before a private society because a man carried a card in the JOURNAL. There have been publications in either one or two of the other societies in Louisville that have paid; the Medical Chirurgical pays $400 a year for publication of fifteen pages at certain intervals in the JOURNAL. They are required to be from members of the Jefferson County Medical Society, however, and they can't be read by a man unless he is a member of the Medico Chirurgical.

On a number of occasions we have published articles from doctors both inside and outside of Kentucky, although we have published very few from outside the state, that have been of such general interest that we have felt they should be included in the JOURNAL. That met with Dr. Hall's and Dr. Horine's approval when it has been done.

I like the suggestions of the Committee in regard to the improvement of interest in the JOURNAL. I believe that ought to be done by all means, and it has been my desire to do it all the time, but it is an awfully hard thing to do, it is hard to get news items. We have written for them at intervals. We write about three times a year to the Secretaries of the county societies. We never have gotten enough replies from county societies to repay us the cost of postage; the fact of the matter is, the five Secretaries that ever do reply are in this room right now. You can't get obituaries of the members. The only way we get them is from our clipping bureau. It is very difficult to get that sort of thing done because, as a rule, we are not reporters and we don't think of reporting medical items at the time, although we are interested in them ourselves. It has been difficult to secure that kind of service. I think it can be improved and I am sure we will try our very level best to do it.

As to the policy of the JOURNAL, if you desire to determine that your Editorial Committee shall decide the matter of selection of material that goes into the JOURNAL, that is a matter that the Committee should be instructed to do. Of course they will do it just as carefully and just as fearlessly as you desire.

The matter of an Editor with a paid full-time secretary is, of course, a matter of finance that would direct itself to the attention of the Council and couldn't be done under our present arrangement, and some reformation in our whole procedure would be necessary in order to secure the necessary means, because we haven't the money to carry on that activity right now. That is done in some states; some states have a separate Editor; in the majority of states the Secretary is the Editor, and in most of them there is an Editorial Committee such as we are developing in this state, and the editorial policy of the JOURNAL has varied from the purely propaganda journal of a few of the states to the purely scientific in some of the others, and the mixed, as we have attempted to have in our state.

We tried for a long time the matter of having scientific editorials prepared by members especially. For the last three years we have invited members of the profession to write column or column and a half editorials at intervals, and have secured, I think, about four and a half per cent response to those requests, and all of them that have been written in answer to the invitation have been published and have been extremely interesting. I think that is a thing that could well be developed and would help to develop us on the writing side of the profession.

I am sure the Council will be glad to be guided by this House in whatever method it prefers, but I would like for you to realize that in adopting the report of the Committee you are changing entirely the whole historic attitude of our profession, and I feel very sincerely that we would be moving back to the stage from which we evolved when the State Medical Association was organized in 1898 when we became a democracy, because before that time a few members of the profession, those who were the best qualified and the most interested in medical progress, about 250, at the most 300 of them, composed the State Medical Society and met from year to year and had a mutual admiration society that was unquestionably an organization of very high grade scientifically, but since that time practically the whole profession of the state has been represented not only in the Association but in the JOURNAL, and I believe the response, the reaction, of the profession. I believe the improvement in the profession, has been largely due to the fact that every man feels that it is his JOURNAL; I think the support of it has been largely due to the fact that they feel that the advertising in the JOURNAL pays for the JOURNAL largely and that that advertising has gone a long way to make the JOURNAL possible. Of course we reject more advertising than we accept, which would increase our income to a very large extent if we were willing to do as our neighboring State of Illinois or as the State of New York does and accept darned near anything anybody would pay us for, and we could then publish anything and employ editors and do almost anything that they do, but I don't believe we would improve our standing with ourselves or our self-respect or our influence with our neighbors if we accomplish that great purpose.

ULY H. SMITH, Louisville: I rise to a point of personal defense.

SECRETARY MCCORMACK: I don't want you to take any personal offense because I meant none.

ULY H. SMITH: As stated in the first part of the report, this represents a cross-section of opinion that we have asked any number of members about. The report may be essentially erroneous, but it is given in a constructive manner.

SECRETARY MCCORMACK: Absolutely! Don't for one moment misunderstand me. I love this sort of report. These reports that come along and say, "You're doing the right thing, go ahead," are all poppycock because it means they have not looked at it. I know too well I am not doing the right thing about many things, and if somebody will tell me how to do better that is what I want. If they come along and pat you on the back that is not getting you anywhere. If I can find out what I am doing that is wrong, or what the Council is doing that is wrong, or any part of the organization, and correct it, that is what we are for, that is the reason we are a democracy.

L. H. SOUTH, Louisville: It might be interesting to the House of Delegates to know something about how the JOURNAL is made up. Each time a member sends in an article to the Association office, it is registered on a card index file, the date it is received and the author and the title of the paper. When the JOURNAL is to be made up that month the papers are selected as they are received by Dr. McCormack. Those papers are read carefully, before they go to the printer, all unusual names and words are checked, and as many as four letters are written trying to get the essayist to tell us exactly what he is referring to. That is sent down to the printer. The printer now is sending to the authors their galley proofs for correction of printer's errors. Instead of correcting the errors, he rewrites his entire paper.

SECRETARY MCCORMACK: One paper cost $183 last year to correct.

L. H. SOUTH: It costs us twenty-five cents every time we make a correction not in the paper itself. Sometimes in making up the JOURNAL, an article doesn't fit. When they run the pages through the press they must be eight pages long. Each page is not run separately, but eight pages at a time. When they get to eight pages and find there is perhaps a page and a half vacant and the article will not fill that page and a half, that article must be taken and a smaller one used instead.

The House of Delegates issued an order a number of years ago, that all county society proceedings must be published. This ruling has always been followed.

A. CLAYTON MCCARTY, Louisville: Was Dr. Novak's original article on endocrinology considered too long?

SECRETARY MCCORMACK: It had been published before in practically the same form.

A. C. MCCARTY: He didn't read a paper. The minutes were taken and it was sent to him and corrected.

SECRETARY MCCORMACK: It was an hour's address and it would have taken a whole issue of the JOURNAL.

You recall that at the Murray meeting the House of Delegates passed instructions that bibliographies should not be published but we should multigraph and furnish them to anybody who desires to secure them, unless they are paid for in the JOURNAL. There are two difficulties. They have to be set up in nonpareil. It costs about four times as much to set up bibliographies as anything else. The whole bibliography of the subject is available in the compendiums of the Surgeon General's Library and in the abstract of reports from Chicago, and any of us who want to can write to Chicago at any time and get the current bibliography, for the last year, for the last ten years, or for the last fifty years, on any subject, from the Journal of the American Medical Association. That is one of the things they make available in their library service.

This thing came up because of its abuse, I grant you, and we are instructed to use our discretion in regard to the publication of bibliographies. The difference of opinion arose over a bibliography that had been copied from the Surgeon General's Library that was two pages of nonpareil that would have cost $75, and there are not more than ten members of this House of Delegates who could have read it without a reading glass, and not any of them would have read it under any circumstances. I believe, and I believe you do, that when a man writes a paper it is all right for him to express gratitude to every man who has assisted with the scientific knowledge that he has secured, but for him to put at the end of the paper the list of all the people that have written on that subject, whether he has consulted them with reference to this paper or not, has been one of the forms of erudition with which I have not been in sympathy, I'll say to you very frankly, at the cost per inch that that form of erudition requires, I don't believe it is worth the money. I think the ideas in the paper, if they are good, are what count and not the source from which the material came.

The same thing has happened in history. For a long, long time nobody bought any histories but the libraries because you would have three lines on the top of the page with a letter or figure after each word referring to something down at the bottom to prove that that word ought to have been used in that particular paragraph or that sentence. Now they have gotten so they publish the source material in separate books or in an appendix and you don't have to wade through that stuff.

I believe that with the Digest of the American Medical Association available, with the Surgeon General's Index available to all of us (and they are available to all of us all the time) the republication in detail is not necessary for an article in the JOURNAL.

I don't want Dr. Smith to feel for a moment that I don't think his suggestions are the kind of thing that ought to be given. I am delighted to have them, but I want you to know what has caused our attitude and action in the past, and I want you to instruct us to do whatever you think we ought to do in the future, and whatever you instruct us to do I can assure you is going to be carried out.

PRESIDENT NORTHCUTT: It occurs to me that there would be no end to discussions of these questions. Everybody knows something about it. There is a motion before the House.

A. C. McCarty: May we have his recommendations read? I can't recall them specifically.

President Northcutt: There are two specific recommendations.

Uly H. Smith: I don't think they are exactly recommendations. I think they are our opinions.

"Your Committee feels that the activities of the Associate Editors," I have reference to Dr. Horine and Dr. Hall.

Secretary McCormack: They are the two members of the Editorial Committee now.

Uly H. Smith: "While beneficial to the Journal inasmuch as they contributed articles of an historic nature, are inadequate since they did little or nothing to improve the Journal's editorial policy, nor did they add to the physical appearances of the Journal." That isn't a recommendation.

Secretary McCormack: It is a just criticism.

Uly H. Smith: "If a full-time directing Editor, a doctor of literary bent, with a paid secretary, could be procured," (this would be Utopia if we got there) "one who has time to personally review and edit the articles; if adequate advertising could be secured; if space could be given to personal announcements and a portion to a query column; if the style, make-up and printing of the Journal could be improved, the value of the Journal would be materially enhanced.

"Furthermore, if this could be done we believe the Journal could be made more scientific without decreasing its practical value and the Journal would compare favorably with the outstanding state journals."

I don't think I had a recommendation, but I waited to see the discussion develop.

A. C. McCarty: I wonder if Dr. Scott would accept the substitute motion that Dr. Smith as Chairman of the Committee on the Journal be made an Advisory Editor of the Journal. These things can be taken care of and thrashed out with the Council.

Secretary McCormack: That would have to be thrashed out with the Council, but I am sure it could be done.

J. W. Scott: I am very much moved by what Dr. McCormack has said. It has changed my point of view considerably. I think we do have to make our choice between the kind of Journal that he has described and what I think would be a more readable and more useful Journal. I think the solution will be that those of us who desire another kind of Journal can get it and read it and those of us who want to read the Kentucky Journal will read what we want in it and not read what we don't want and not expect to make it really a high class scientific Journal. I suppose that is a Utopian dream that I was foolish to dream. I withdraw my motion and accept Dr. McCarty's motion.

A. C. McCarty: I would like to move that Dr. Uly H. Smith as Chairman of the Committee on the Journal be added to the Advisory Editorial Board of the Journal.

The motion was seconded and unanimously carried.

Secretary McCormack: That reminds me of one of the best things that happens in the State of Kentucky. Old man Madden who ran the racing farm at Hamburg had a brass plate tacked on every gate post and barn door on his farm: "No complaint considered without a remedy." I am delighted Dr. Smith is going to be associated with us in finding the remedy.

President Northcutt: Report of the Committee on Medical Economics.

A. Clayton McCarty, Louisville: Realizing the importance of this Committee and hoping that some new blood might do something more to keep socialized medicine away (that is what all our suggestions have been), I asked the President to select another Chairman for this Committee. Apparently he hasn't done it as yet. I want to ask that you let us do as we have done heretofore, wait until Wednesday night. Our Committee is composed of a representative from each district and it is difficult for us to have a meeting except at the time of the annual meeting, and then sometimes it hasn't been so good. We would like to have that meeting Wednesday when we can talk things over carefully and consider the suggestions you are making now and will make tonight and throughout the meeting, and give you a brief report on Thursday morning. Last year that was referred to the Council and we never heard any more of it. This year we hope we will hit something that you will accept.

President Northcutt: Editor's report.

Secretary McCormack: I have already said what little I know.

President Northcutt: Committee on Public Health Problems in Education, Dr. Collins, Chairman.

R. D. Collins, Whitesburg: I am a young man in this meeting of the State Medical Association. I didn't know what was expected of me when I got this letter from Dr. McCormack. I thought we were to come down here and have a meeting and work out something that I haven't got here. I wrote him to ask what should be done about it and for more information, and he never did reply. Thinking maybe he did expect something of me, I looked around as much as I could and I have something here about health problems in education. This is taken largely from Dr.

Smiley's book. He is Professor of Public Health at Harvard, or was until recently.

No medical or public health program can be completely successful in the United States unless it has the confidence and support of the people that benefit by it. Full support cannot be secured unless the people understand the purposes and objectives of the program. They must not only have the confidence in the medical profession and the personnel of the health department, but must understand that their activities represent a direct service to the individual and are of real benefit to the welfare of the community.

Under our social system it is necessary not only to win the support of the governing body, but to reach into every home, familiarize the people with the functions of medical profession, including the health department, and explain the activities that are being carried out to meet these obligations.

In many states health officers possess little or no compulsory powers, whereby they may enforce health decrees. Even if we possessed these theoretical powers it would not be possible to enforce them. The reason for this is that in this country no governmental policy can be carried out without the full consent of the governed. This consent will not be secured until the project is fully understood. Thus it is not possible to put into immediate effect the preventive or curative measures that are developed by scientific research. A preliminary step to any advance in medical practice, preventive medicine or community hygiene is a campaign to acquaint the people with the advantages of the specific methods to be introduced. This presupposes a general and widespread knowledge of the principles of medical service, hygiene and community sanitation. This condition does not prevail at the present time. The chief difficulty has been that adults of the present generation did not receive thorough instruction in the principles of health and care of disease during their elementary school training. Their scientific information is limited and their ideas are often bizarre, founded on superstition, tradition, and misinformation. Also adults are slow to receive new ideas. Their habits and customs are fixed, prejudices are established, the pattern of their life is formed; old ideas that are well established are changed with difficulty.

Health education, therefore, in the United States must be divided into two distinct phases:

(1) Child training in the principles of personal and community health. This training must be given in the formative period of life. Health instruction should not be a thing apart, but should be incorporated in the school curriculum of the elementary grades; also special hygiene courses introduced in high school and college training.

(2) Health information. This phase of health education is planned primarily for adults. Its purpose is to inform the people of the community concerning current medical and public health problems and to advise them of the policies of the medical profession and the health department in endeavoring to solve such problems.

The success of the health education program is dependent in no small part upon the first, that is child training. In fact, many feel that it is essential to get health education over properly to have it taught in the public schools. School health education is not the direct responsibility of the health department. This is essentially a pedagogical matter. Health educational material should be presented to the children by the teachers and not the health department staff. Health matters should be incorporated in the daily class room work, not given as special lectures by some outsider. Thus this plan requires an intensive and thorough course in teachers' colleges. The local profession and the health staff should aid, assist, and in every way cooperate with the teacher in this important matter with lectures, demonstrations, pamphlets, leaflets, etc.

Health information. Health propaganda must meet certain requirements. All health educational material should conform to these essentials:

(1) The material should state the truth. Too often this principle is violated. It is most humiliating to have to later eat one's words stated at some previous time about health matters.

(2) The information should be presented in a dignified way. Catch phrases may attract an audience but seldom win lasting friends.

(3) The presentation should be in a popular form so that it is readily understandable. No long, complex terms nor ultra-scientific terminology should be used.

(4) The material selected should have an appeal for the particular group one desires to reach. These methods vary depending upon the type of audience endeavored to reach.

(5) Critical analysis should be made by the person presenting the matter, of all material so given out; see if it is (a) concise, (b) emphatic, (c) interesting, (d) colorful, (e) familiar, that is related to some past experience of the audience.

A great variety of ways are used by various medical and health agencies, such as (1) reports of many types, (2) bulletins issued by the staff, (3) newspaper articles, (4) public health pamphlets, leaflets, etc., (5) health exhibits, (6) health lectures, (7) personal letters, (8) picture machines, (9) and, recently, radio broadcasting.

Our own Health Department depends chiefly on the newspaper articles, pamphlets, leaflets, lectures, personal letters, and just now we are adding to our equipment a moving picture machine. We feel this will be a most valuable way in our county.

It goes without saying that we do our utmost to keep all of those practicing medicine and dentistry informed as to our problems, the teachers through the school visits and at institutes, also the parent-teacher groups, women's clubs, and the like. It is essential that we always inform the county officials, the appropriating boards, about our programs so we may keep in their good graces.

Clark Bailey, Harlan: I would like to rise to a point of inquiry. The matter of public health education is one of the most important matters we have to deal with in our profession because it is the only way the public can cooperate with the medical profession. Two or three years ago the Kentucky Education Association adopted the policy of recommending to our state educational system that the first few grades (I don't remember how many) be taught health education. Has there been any attempt on the part of our medical profession in this state to cooperate or give any aid or any help in that work? Are they taking it upon themselves to do that without the aid of any real professional advice? I think that is rather important.

Secretary McCormack: I am glad you asked the question and I am glad to respond. When the physical education law, as it was called at the time, was passed, Professor Carr (some of you know him as the Acting President of the Morehead State Teachers' College) was the Director of that department. The State Health Department with the approval of this Association paid his salary—the State Department of Education was unable to do it—and brought him here from Pennsylvania where he had been connected with the Department of Education and the Department of Health in a similar capacity. For several years he began the development of this system of health education, working largely through the teachers' training institutions of the state. Following his connection with the Teachers' College at Murray, we secured the services of Miss Thomas, who was a Jefferson County girl and taught at the Ballard School and was a graduate in health education from the University of Chicago. She had an advisory committee of physicians and she wrote the curriculum in regard to health education that is still in use in the schools of the state.

When she was employed by the Metropolitan Life Insurance Company at fives times as much salary as we paid her, we secured the services of Miss Elma Ruud, a registered nurse who had been a teacher in the grade schools of Minneapolis and in those schools realized that health education was a thing apart and didn't get anywhere much and so she had taken a training course at the University of Michigan as a public health nurse, put five years in the training, and had been in charge of public health education in the University of Tennessee and for the Tennessee Coal Company, one of the largest operations in the South, and with the State Health Department of Michigan. Miss Ruud was with us for a few years and the Tennessee Valley Authority took her away from us, also for an increased remuneration, and we secured one of her former assistants from Michigan, Miss Harris, who is still with us in that department. Miss Ruud has come back to us and is now in charge of public health education at the University of Kentucky and Miss Harris is doing the work in the several teachers' colleges of the state. Miss Harris has a medical advisory committee.

I really think the report that Dr. McCarty made of the Jefferson County Medical Society contains the germ of one of the most important things that is going to be done in public health education of the adult, because the daily articles carefully prepared and supervised by a committee for the Courier Journal will reach a large number of readers.

It is extremely gratifying, and I know the members of the profession realize it when you look at your local papers, that with three exceptions the newspapers of the state publish practically everything we send them from the State Medical Association or the State Department of Health on public health education. We send them a great deal of material. The weekly papers are provided with articles constantly. They are sent through the health officer so that he can translate them into local conditions and can attach local news items that will make them of interest. For example, recently we have had a good many articles in Western Kentucky on the poliomyelitis situation, we had a great many in your section on meningitis last year. The matter of integrating public health education with education generally is of vast importance. In many states this matter has been taken over entirely by the physical educators and the athletic group has taken over the matter of public health education without any public health education in the thing at all; it has been a matter of promoting athletic games and athletic competition and athletics generally in most of them.

Our State Department of Education has given us the most complete cooperation during every administration since the passage of the physical education law, but the difficulty of securing a mass of trained teachers is enormous. There are in the United States fewer than seventy graduates in public health education who themselves are teachers, and practically all of them are taken up in the larger institutions. We have been fortunate in having a continuous service in that respect. To get the teacher to use in arithmetic and in geography and in grammar and in history and in every other thing, the things that are related to health is a matter of considerable difficulty except as you train the newer teachers—they are getting it very well indeed.

Last year in the University of Kentucky we had eleven individuals who took courses in public health education. Unfortunately every one of them got a position outside of Kentucky immediately. That is one of the misfortunes that comes from our low salary rate in our educational system.

Another thing we are attempting to do in our full-time health departments that I think is having a remarkable permanent effect is that in the examination of the school children we are attempting to interest, as far as it is possible to do, the physicians in particular localities so that on the day that the children in this district are being examined he will be present and take part in the examination.

We are trying to let those children see that scientific examinations are required. It will be impossible in the future for somebody to come along and pull their legs and make a punch on some of the stops in their backs and make them believe they can find hookworms in there, or other infectious processes that we know our public health officers and nurses are overcoming in the schools. We feel that is one of the most important contributions we are making.

I had the opportunity just a year ago during the sessions of the legislature of discussing with one man who as a boy had been examined in the school and found to be harboring hookworms and been cured of hookworm disease, how when he came to the legislature they talked to him about letting chiropractors have additional privileges; they were just talking to somebody who was so fixed against any such idea they had that there wasn't any use talking to him at all. He knew the facts, and knowledge, of course, is the greatest power in the world.

We are doing the very best we can to integrate our health education system with our public education system, and we are making progress, although it is very much too slow and I get awfully impatient with it frequently.

President Northcutt: Report of the Committee on Resolutions. There seems to be none.

Secretary McCormack: Mr. President, I have a resolution that I desire to offer:

Resolved, That the Kentucky State Medical Association advocate passage by the next session of the General Assembly of Kentucky of a law requiring that before a marriage license be issued, both the men and the women applying for such licenses must have presented to the license clerks duly certified negative reports for syphilis and gonorrhea, from microscopic and blood tests and from approved physical examinations.

Resolved Further, That the Kentucky State Medical Association create a Committee on Health Examination before Marriage; that the Committee on Health Certification before Marriage shall from time to time submit in writing to the State Department of Health of Kentucky advice as to what ought to constitute proper and satisfactory tests and physical examinations.

A. Clayton McCarty, Louisville; I move that be adopted for presentation to the legislature.

Louis Frank, Louisville: The proper course is reference to the Committee on Public Relations, of which Dr. Irvin Abell is Chairman, to take such action as they deem best.

A. C. McCarty: I think that is better and I so move.

President Northcutt: The motion, then, is that this resolution be referred to the Committee on Public Relations for action.

The motion was seconded and unanimously carried.

President Northcutt: Is there any other business to come before this session? If not, a motion is in order to adjourn until seven o'clock.

A motion was regularly made, seconded and carried that the House adjourn at 4:45 p. m. until 7:00 o'clock p. m.

HOUSE OF DELEGATES
SECOND SESSION

Monday Evening, September 13, 1937

The second session of the House of Delegates convened at 7:15 p. m., and was called to order by the Secretary, A. T. McCormack, Louisville.

Secretary McCormack: In the absence of the President and Vice Presidents, nominations are in order for President Pro Tem.

John W. Scott, Lexington: I nominate C. A. Vance.

The nomination was seconded, nominations were closed, and Dr. Vance was elected President Pro Tem and took the Chair.

The Secretary called the roll.

SECRETARY McCORMACK: Mr. President, we have as our guest today the President-Elect of the Illinois State Medical Association. He has been present during the day and his extensive experience and broad knowledge and long years in the distinguished practice of medicine in our neighboring state especially qualify him to talk to us about some of the things in which we are mutually interested. I would suggest that we hear from Dr. Munson at this time about anything he has in his system that he thinks would be of value to Kentucky and Illinois and the nation generally.

SAMUEL E. MUNSON, Springfield, Illinois: I had the pleasure of being introduced to you this afternoon as well as the privilege of participating in your proceedings. You seem to be an enthusiastic lot of men, as medical men should be, and your reports are certainly very much to enthuse each other; they are very excellent for a meeting of delegates and councilors to the House of Delegates of your Association.

Before being elected President-Elect of the Illinois State Medical Society, I served as Councilor for twelve years. We have about as many Councilor Districts as you have. I had the Fifth District, which comprised about eight or nine counties around Springfield, and some of my first experiences were to go out and talk to the men in some of these societies and really rehabilitate them. Some of these societies that held only one meeting a year, for the purpose of electing officers, are now functioning regularly with good scientific programs.

I had the pleasure of meeting your distinguished Secretary some years ago, and have had a very high regard for him ever since. I congratulate him and the Kentucky State Medical Association which he represents, upon his election as President of the American Public Health Association. I am also pleased, as I know are the members of the Illinois delegation to the House of Delegates of the American Medical Association, that you have the high honor again of having one of your distinguished members chosen as President-Elect of the American Medical Association. I am sure these distinguished sons of Kentucky will not only serve faithfully in the performance of their duties, but will bring high honor to the Kentucky State Medical Association and the medical profession of the nation.

Again I thank you for this privilege of participating in your deliberations and the hearty reception which you have accorded me. On behalf of the Illinois State Medical Society I return to you an invitation to have a representative at the next annual meeting of the Illinois State Medical Society, to be held May 17, 18, 19, at Springfield, Illinois.

President Northcutt took the Chair.

PRESIDENT NORTHCUTT: There are some reports left over from the afternoon. First is the report of the Delegates to the American Medical Association. We will be glad to have Dr. Simpson give us that report.

VIRGIL SIMPSON, Louisville: Mr. President, Members of the House of Delegates: The House of Delegates of the 88th Annual Session of the American Medical Association convened June 7, 1937, at Atlantic City with 165 of its 170 delegates in attendance.

The address of the President, Charles G. Heyd, of New York, sounded the principles in summary involved in the solution of the problems of most interest to the medical profession now. He declared:

"The actual indigent should have adequate medical care paid for by general taxation; that indigence is a local problem; that doctors should be paid for their care; that certification of indigency should be done by adequate welfare agencies having representation from the local county medical society; that the profession should maintain unequivocal opposition to all forms of compulsory insurance; that local agencies should maintain diagnostic laboratory service for physicians in isolated areas."

The field of medical economics was further extended at this session by the introduction of a set of resolutions providing:

(a) A national health policy for all groups of the citizens of the United States should be put in operation.

(b) That the A. M. A. should submit such a plan to the government.

(c) That the cost of medical care for the indigent be met from public funds.

(d) That the agencies for maintaining a high standard of medical service, such as education, research, investigation procedure, etc., should be supported from public funds.

(e) That this financial support should be extended to hospitals, both public and private, for consultative and diagnostic services.

(f) The author did provide that local medical approval and local needs be considered and that organized medicine be charged with the responsibility of choosing lists of "Experts" to work for the federal government.

These resolutions were considered in executive session and were disposed of by the affirmation that the records, source material and experience of the A. M. A. be placed at the service of the government.

The delegate from the Section on Obstetries, Gynecology and Abdominal Surgery, Dr. G. G. Ward, presented a resolution providing for a change in the name of that section to the Section on Obstetrics and Gynecology. The House of Delegates approved the change.

The New Jersey delegates were instructed by their state association to present resolutions criticizing the management of Hygeia and the provisions of the Copeland Food and Drug Bill. Neither of these resolutions got further than an acute criticism.

An exhaustive study on blood grouping was presented to the House of Delegates by the Committee on Medico-Legal Blood Grouping Tests, and their recommendation was adopted, which adopted the international nomenclature for blood grouping as recommended by the Health Committee of the League of Nations and also that where necessary state laws should be passed authorizing courts to order blood grouping tests in cases of disputed paternity.

A resolution provided that school boards have entered on index cards of every school child the name of the family doctor and that he and the parent be apprized of any accident or illness. It further stipulated that the above provisions be called to the attention of each state association and the secretary of each county society.

A very interesting feature had to do with the establishment of a Distinguished Service Award of the American Medical Association. This was authorized to be bestowed upon members annually and the Board of Trustees was instructed to create and establish it. It is to consist of a medal and a citation. A committee was created to pass on the eligibility of nominees and to submit the names of not more than five to the Board of Trustees, which shall select three names to present to the House of Delegates for choice of the recipient. This procedure appears somewhat involved, but seemed to be desirable.

Since 1935 the matter of contraceptives has been before the House of Delegates in one form or another. At the Atlantic City session it was agreed that (1) the American Medical Association take such action as may be needed to make clear the legal rights of the physician in the use of contraceptives; (2) that an investigation of materials, devices and methods employed in preventing conception be carried out by the Council on Pharmacy and Chemistry and the Council on Physical Therapy and results published; (3) that instruction be given in medical schools concerning fertility and sterility.

Some interesting amendments were made to the By-Laws.

Chapter IV, Section 1, of the By-Laws was amended to read: "No member of the House of Delegates nor general officer of the Association shall be eligible for election to the office of President Elect or Vice President."

Chapter IV, Section 8, was amended to read: "The President Elect shall be installed as and assume the duties of President at the opening general meeting of the Scientific Assembly of the Annual Session following that which he was elected."

The Principles of Medical Ethics which refer to contract practice were revised to read: "Section 3. By the term 'contract practice' as applied to medicine is meant the carrying out of an agreement between a physician or a group of physicians, as principals or agents, and a corporation, organization or individual, to furnish partial or full medical services to a group or class of individuals on the basis of a fee schedule, or for a salary or a fixed rate per capita."

Chapter XI, Section 1, was amended to read: "Conviction of a felony shall automatically remove a member's name from the membership roll for a period of not less than one year after the termination of punishment of the offense."

Chapter IX, Section 1, of the By-Laws, was amended to read: "The period of time within which appeal to the Judicial Council may be taken shall be limited to the six months following the date of decision by the constituted authority of a constituent association."

In connection with this procedure of the Judicial Council, another provision was set up that arranges for the President to be authorized to appoint investigating juries on recommendation of the Judicial Council in such cases as appear to be of more than local concern. The President was also authorized to appoint a Prosecutor to represent the American Medical Association before the Council.

One of the spectacular events of the Atlantic City session was an address by J. Hamilton Lewis, United States Senator from Illinois. A new thought was projected. In lieu of the time-honored physician-patient relationship, the profession was invited to become acquainted with a New Deal relationship, the doctor as a federal official and the patient as a citizen of the government. Later when in conference with the Board of Trustees and asked how the government might proceed to regiment the profession, it was explained that a physician originally practiced medicine legally by permission granted through a system of state licensure; that with the advent of the Harrison Narcotic Law the federal government assumed the right to license physicians to prescribe narcotics and that physicians were obliged to procure such a license as well as pay for it or forfeit the privileges of prescribing narcotics, notwithstanding their state licensure. Then it would seem but an easy step now to require the physician to secure a federal license to practice any part of his professional activity. Who can say that it may happen here?

The total registration at the Atlantic City meeting was 9,764. This was the peak meeting in point of attendance. Sixty-five registered from Kentucky. The largest Section registration was 3,156 in the Section on Medicine, the smallest was fifty-two in the Section on Pharmacology and Therapeutics.

The number of delegates is limited to 175 by the By-Laws. The present apportionment is based on one delegate for each 775 members or fraction thereof, provided each state society shall have one delegate regardless of membership.

The total membership of the American Medical Association on April 1, 1937, was 105,460. The basis for apportionment of delegates for the next three years will be one for each 825 members. On this basis Kentucky continues to have three delegates by a margin of sixty-two only, the membership April 1, 1937, being 1712.

The membership of the American Medical Association, as I have said, on April 1, 1937, was 105,460. This constitutes its membership peak, the gain in the past year having been over 3,000. The number of Fellows was 66,296, a gain of over 3,000. In Kentucky there are four counties without a county society. Seventeen hundred and twenty-one doctors are members of the A. M. A. and 770 are Fellows.

Following are some interesting financial data:

Value of Real Estate	$1,187,773.98
Equipment	1,395,606.57
Investments	2,253,521.31
Cash and Accounts Receivable	335,848.77

The JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION had a net paid circulation on December 31, 1936, of $93,270,000 and a net earning of $637,830.28. In Kentucky, 1,020 doctors, or 27 per cent of total licensed physicians received the JOURNAL. Your attention is invited again to the unenviable place your state holds. In New Jersey 69 per cent, Connecticut 64 per cent, Idaho 61 per cent, Pennsylvania 60 per cent of the doctors licensed in these states received the JOURNAL.

It is of interest to note that of the 1,020 doctors receiving the JOURNAL last year, 329 obtained it by subscription instead of being Fellows and thus entitled to it.

Only two of the six special scientific journals had incomes sufficient to meet the cost of publication. The total loss from publication of these special journals for the year was $33,821.30. It is believed by the Board of Trustees that these deficits are due to competition from journals published by commercial concerns able to meet their cost of publication through uncontrolled advertising columns.

The paid circulation of Hygeia increased last year 15,000. Its net circulation is now 101,000. Sixteen thousand doctors are among its subscribers. Its publication costs incurred a deficit of over $14,000.

The following officers were elected:

President-Elect, Irvin Abell, Louisville, Ky.

Vice-President, Junius B. Harris, Sacramento, California.

Secretary, Olin West, Chicago, Ill.

Speaker of the House of Delegates, Nathan B. Van Etten, New York.

Vice-Speaker, H. H. Shoulders, Nashville, Tenn.

Treasurer (recommended by the Board of Trustees), Herman Kretschmer, Chicago, Ill.

Trustees, Arthur W. Booth, Elmira, N. Y., R. L. Sensenich, South Bend, Indiana.

Each of the above officers was elected unanimously.

San Francisco, California, was selected for the 1938 Annual Session. An interesting feature in connection with the place of the meeting was the approval of a recommendation that the American Medical Association select its meeting place three years in advance from now on, for reasons perhaps that are apparent to most of you.

PRESIDENT NORTHCUTT: We all enjoyed that very interesting and complete report.

Dr. Simpson, who is a member of the Revision Committee, will also present a report of progress of work of the Revision Committee, U. S. P. XI.

V. E. SIMPSON: The 11th Revision of the U. S. P. became official June 1, 1936, just seventy-two and one-half months after the work of revision was begun.

Following this release several revisions of texts on Pharmacology appeared. It is through these that the members of the medical profession become familiar with the contents of the U. S. P. XI.

The work of revision does not stop with the release of the official copy. New drugs are being continuously studied; drugs and methods of determination of purity and strength, etc. are also subject to revision when found necessary. These additions and changes are made official and issued as Supplements. The first Supplement has been issued and became official December 1, 1937.

The need for such Supplements has been made necessary because of the rapid development of medical science and Drug Legislation, federal and state. The enforcement of the Federal Food and Drug Act of 1909 brought the first official recognition of the Pharmacopoeia and each act of legislation has brought added emphasis of the need of keeping the Pharmacopoeia. The most recent example of this condition was the so-called Tugwell Bill. Enforcement of legislation can not await a ten-year revision plan.

The A. M. A. attempted to relieve the situation, so far as drugs are concerned, by issuing the N. N. R. annually. The inherent weakness of this publication is found in the hasty consideration and the adoption of a standard too favorable to the manufacturer.

The Publicity Campaign

Arrangements were made about the time of issuance of U. S. P. XI for cooperation between the A. M. A. and the Pharmacopoeia Officials for the preparation and publication of articles on "The Pharmacopoeia and the Physician." Twenty-four of these have been prepared by clinicians of experience and published in the Journal of A. M. A.

Exhibits of the U. S. P. and of individual members of the Revision Committee have been arranged and shown at medical meetings, National, State and unofficial groups during the past three years. These were held with the hope that physicians might be educated to the use of official drugs rather than proprietaries. How much has been accomplished can not be stated. One thing is certain—a casual review of the current medical literature affords adequate evidence of the need.

Vitamin Advisory Board

This Board is composed of Sherman, Columbia University, McCollum, Johns Hopkins, Nelson of the Food and Drug Administration, Kelly, U. S. P. Board of Trustees and Cook of the Revision Committee.

It is carrying on investigation looking to the standardization of vitamins adequate for admission to the U. S. P. Vitamins A and D have already been admitted.

Anti Anemia Products Advisory Board

This Board is composed of Drs. Castle, Minot, Isaacs, Palmer and Edmunds. It was created some eighteen months ago and is developing a U. S. P. unit value for anemia products based on reticulocyte response. Every Biologic house in the country is cooperating with the Board.

Digitalis Standardization

A Committee of men interested in heart disease with Henry A. Christian as chairman is developing this problem. The cooperation of the British Pharmacopoeia Commission, that of Switzerland and Canada has been listed.

Next Decennial Revision

The U. S. P. Convention for Revision work on U. S. P. XII will meet in 1940. At that time a new Revision Committee will be selected to function for the next ten years.

President Northcutt: Next is the report of the Committee on Public Relations, by Dr. Abell.

Report of the Committee on Public Relations

The medical profession of Kentucky can take proper pride in its historic record of private and public service. Charged by successive General Assemblies for the past sixty years with the responsibility for medical service and public health procedures, it has achieved results that are apparent to every thoughtful citizen of the state. Every change that has occurred in medical practice, including public health procedures, in Kentucky has been initiated and made effective by the medical profession. As long as we can remain intelligently and alertly organized we can continue to accomplish even greater service for our people.

For these reasons neither the people nor the profession having the care of their health have been agitated by even a suggestion of any plan for the socialization or state control of medicine in this state. This very fact emphasizes the need for the profession and its allies in the fields of dentistry, pharmacy and nursing to keep themselves informed of movements, whether sound or fantastic, that are organizing in other states. Our anxiety need be centered on but two factors. First of these is the emphasis that should be placed continually on regular meetings of the county societies where all of the subjects that are of interest to the physicians and people of each county can be taken up frankly and settled in accord with the principles which have been accepted by the whole profession. For example, there is no question but that the medical society of each county should arrange formally, cooperating with city councils and fiscal courts, for the medical service for indigents and that they should provide a plan acceptable to all of the profession for medical service on partial payment plans for low income groups. These necessities, however, do not excuse or palliate an attempt by the owners of private hospitals, or physicians, or groups of physicians, for offering, under the guise of hospital insurance or other schemes, medical services at per capita or per family charges far below the cost of such service because it is apparent from the whole history of such movements that they result in hasty and poor service and that they void one of the chief principles of the profession, namely, free choice of physicians. This movement has swept over the State of West Virginia and is threatening to enter Kentucky. We urge that it be stopped.

The second threat upon the integrity of the medical service which the people of America receive as compared with that of other nations is in the federal field. So far, this is more of a threat than a reality and it will only become serious if the leadership of the profession fails to do its part. The federal government has entered into a very large field of social justice as an immediate result of the depression, and has formulated a program which has long been in contemplation and which brings out hitherto uncharted weaknesses in the life plans of our people. As long as our nation was largely engaged in agricultural and individual pursuits it was possible for each family or group to give a greater or less care to its unfortunate members. It was suddenly realized by the whole people that we had a constant population of several million unemployables all the time and that two or three million of our laboring people were without work at any particular time even when conditions were at their best. The depression suddenly added nine or ten million more to these vast figures and we all began to realize that the urbanization and industrialization of our population presented a problem that could be solved only by a community of action.

The plan evolved included the saving of the banks and insurance companies and through them our financial structure, the provision through federal, state and local cooperation for work for the unemployed, and other plans still largely in the process of development for settlement of the natural differences between capital and labor, the development of ordered plans for agriculture and agricultural markets, and the passage of the Social Security Act, with its broad provisions for old-age assistance, unemployment compensation, aid for the crippled and blind, and vocational training for those injured in industry, an increased federal assistance for the states in their continuing development of public health and maternal and child health work.

The operation of these plans for a couple of years has focused attention on statistics showing the development of a very large and rapidly increasing number of people who are becoming charges of society because of ill health, and this ill health is in too many instances due to causes which, as a profession, we know how to prevent or to cure in developmental stages before invalidism or incapacity have resulted. Thoughtful students of public affairs recognize these things and, further, that a great many people have not been taught to seek medical service and advice for the prevention and cure of disease sufficiently early to secure even good results. As a profession we must meet this challenge. We must, by keeping ourselves acquainted with the newer knowledge developed by our associates in the research field, make ourselves even more rapidly of service to even larger numbers of our people.

In saying all this we should also keep in our own minds and in the public mind the progress we have made. With a very few exceptions we have the healthiest people in the world. The progress that has beeen made in the medical care of the people of the United States for the past fifty years has been one of the most remarkable social phenomena that the world has ever witnessed. The death rate of the people of Kentucky has been reduced sixty per cent in twenty-five years. The age at death has been increased to approximately sixty years. These achievements of the profession should give anyone pause who attempts to take control of the practice of medicine and public health from it.

Of course, the profession of medicine has not been the only factor in this change, but it has been the largest factor and if it is permitted and authorized to do so it will continue to live up to the tremendous responsibility for the care of the lives of the people not only of Kentucky but of the nation.

From the report of this Committee last year we desire to quote in order to emphasize the following paragraph:

"We cannot reiterate too often nor emphasize too much that the practice of preventive medicine and public health is both a duty and an opportunity for every physician and that the specialty of public health is a part of the practice of medicine that should be kept under the guidance and control of the organized profession, just as are surgery, obstetrics, pediatrics, orthopedics, and other specialties. As a profession we can take especial pride in the fact that under the auspices of this Association and of its larger constituent society, the Jefferson County Medical Society, the first full-time county health department in the United States was organized in 1908 in Jefferson County. We are proud of the fact that under the guidance of this Association and its county societies, full-time health departments had been organized and were operating in eighty of our counties at the time of the passage of the Social Security Act, which recognized such health organizations as the fundamental basis upon which the public health work of the country would develop. At the time of the pasasge of the Social Security Act, one-sixth of the full-time county health departments in the United States were in Kentucky. The county societies and the members of the county boards of health representing these societies have controlled and shall continue to control the policies of these departments. They have increased the confidence in the respect for the medical profession in the state, and their further development and perfection will continue to immunize the intelligent citizens of the state against any attempt to undermine or destroy the integrity of our profession which has been and continues to be the greatest conservator of human life and health.''

At this time eighty-five of our counties are operating under approved full-time health departments. More than three hundred new departments have been organized in other states since the enactment of the Social Security Act. The American Medical Association has approved this plan for the protection of the public health. We believe it gives the profession the best assurance against the inroads of that small group of vociferous and least qualified of the social workers who are seeking to control the healing professions.

We wish again to publicly express our approval of Governor Chandler's policy of continually emphasizing the paramount importance of public health, public education and public welfare to our people. Last year this House of Delegates expressed its appreciation to the General Assembly for the fact that, in the passage of the Reorganization Bill for the state government, it was specifically provided that the State Health organization should continue under the control, guidance and sponsorship of the organized medical profession, under which it has so successfully operated in the past. It is now evident that the Governor and his administration really meant to make effective the policy he had then announced. The largest per capita for public education in the history of the state, the building, through federal aid, of hundreds of modern school houses, and the improved organization of the educational forces of the state under its new code, are matters of social progress that are of importance to physicians as well as the people generally. More improved water systems and more sewerage systems have been built in the past three years than in all of the previous history of the state. Literally thousands of country homes have been sanitated. The excellent building in which the State Health Department was situated was so impaired by the flood that it can no longer be used, and with the aid of the Council of this Association and the approval of the Governor and the Real Estate Board, the splendid structure erected in Louisville for the Federal Land Bank has been secured for the headquarters and laboratories of the State Health Department as well as for the permanent offices of this Association. In the field of public welfare we note the inauguration of the Old Age Pension System and the starting of effective child welfare work.

We especially desire to recognize and approve the carefully planned improvement in the state's eleemosynary institutions. The reformatory at Frankfort has been obsolete and overcrowded for many years, but the flood made it necessary for the State Health Department to condemn the structure as uninhabitable. The new reformatory being built near La Grange has been so carefully planned and is being so well constructed that it will promote Kentucky from possibly next to the last of the states to the very first in the care of its criminals. At the same time a beginning has been made in the construction of a new hospital for the insane on Lake Herrington, near Danville. The Governor and the Commissioner of Welfare have wisely sought and have guided by the advice of those of our associates who are best qualified in psychiatry and have called in consultation the leading psychiatrists of the nation. It is hoped that the broad plan that has been developed will be carried through to completion by succeeding administrations. If this is done, it will give us the most practicable structures from which a mental health program can be inaugurated and made effective.

Your Committee has been called in consultation with the Governor frequently in the development of this plan. He has determined to provide by law for the selection of qualified and trained scientific personnel, for the removal of partisan politics from the control of these institutions, and for the tenure of office that is necessary to their successful operation along lines very similar to those that have been so successfully developed in the operation of our State Department of Health.

We should continue to emphasize and reemphasize to the people and to the leaders of public opinion in the state that buildings, however well constructed and arranged, will be useless unless a policy is developed by law that provides for continuity of psychiatric control under trained and experienced leadership.

We have asked the Attorney General for a reply to the following question:

"Can grain alcohol be shipped into counties that have voted local option where such alcohol is needed for medical purposes either in private practice or in community hospitals?''

We quote an opinion from the Assistant Attorney General, Honorable A. E. Funk:

"In reply I wish to call your attention to

Section 40 of Chapter 1 of the Acts of the General Assembly of 1930, which may be found on page 20 of the printed Acts. Said section 40 reads as follows:

" 'Section Forty (40). Articles not subject to provisions of Act; wine for sacramental purposes. The articles enumerated in this section shall not be subject to the provisions of this Act if they correspond to the following descriptions and limitations, namely:

" '(a) Denatured alcohol or denatured rum produced and used as provided by laws and regulations now or hereafter in force.

" '(c) Medicinal preparations manufactured in accordance with formulas prescribed by the United States Pharmacopoeia, National Formulary or the American Institute of Homeopathy, that are unfit for use for beverage purposes.

" '(c) Patented, patent and proprietary medicines that are unfit for use for beverage purposes.

" '(d) Toilet, medicinal and antiseptic preparations and solutions that are unfit for use for beverage purposes.

" '(e) Flavoring extracts and syrups that are unfit for use as a beverage or for intoxicating beverage purposes.

" '(f) Vinegar and preserved sweet cider.

" '(g) Wine for sacramental purposes.

" '(h) Alcohol medicated according to such formulas as will render it unfit for beverage purposes and which is to be sold for legitimate external use.

" '(i) Alcohol for mechanical and scientific purposes if unfit for a beverage.

" '(j) Any person who shall knowingly sell or give any of these articles mentioned herein for beverage purposes or any extract or syrup for intoxicating beverage purpose, or who shall sell any of the same under circumstances from which the seller might reasonably deduce the intention of the purchaser to use them for such purpose, shall be subject to the penalties provided in this Act.'

"After careful reading of this Act it is the opinion of this department that grain alcohol cannot be shipped in or used in local option territory unless same is unfit for beverage purposes. If it can be so prepared as to be unfit for beverage purposes then it may be shipped into and used in local option territory. Otherwise, there is no exception in the law."

We recommend that this Committee be instructed to confer with the Legislative Council as to the possibility of an amendment to the law which will remedy this unfortunate situation.

Your Committee requests the instructions of this House and will be glad if it can continue to aid in continuing the fine relationship between the medical profession and the allied professions of the healing art and the people of the state so that we can give and they can be assured of better medical service and better health protection from year to year.

Committee:
A. W. DAVIS
E. M. HANCOCK
J. B. LUKINS
A. T. MCCORMACK
IRVIN ABELL, Chairman.

PRESIDENT NORTHCUTT: This splendid report, very instructive, and so beautifully given to us, is before you. Will someone move to adopt the report?

JOHN W. SCOTT, Lexington: I move that the report be adopted and the Committee thanked for its work. The motion was seconded and carried.

PRESIDENT NORTHCUTT: Report of the Secretary of the Committee on Public Relations, a report on Public Policy and Legislation, by Mr. Blackerby.

J. F. BLACKERBY, Louisville: The report that I bring to you is necessarily supplementary to that of the Public Relations Committee, inasmuch as you have made me the agent of that Committee. It however has something to do with the activities of the Legislative Committee. Instead of bringing to you in detail the activities that have been engaged in, I felt it was better to bring to you my observations of the results of these two committees with reference to the public in general.

The relations of the profession with the public and legislature for the past two years have seemingly been mutually satisfactory. The agitation over medical education, public health activities, the State Board of Health, fees, etc., that a few years ago featured each session of the legislature has subsided almost to the point of disappearance, and only those larger and nation-wide questions of socialized medicine, health insurance, and organized group practice, emanating largely from the passage of the National Social Security Act, are disturbing the peace of mind of the individual practitioners and leaders of medical organizations.

There is evidence on every hand to justify the belief that the public and its legislative agencies are not only willing to have the profession propose the remedies for the conditions behind these questions, but will be disappointed if it does not rise to the occasion and, as always heretofore, manifest its ability to meet any contingency or situation and sponsor those plans, laws, and adjustments that will redound to the welfare of the common weal and elevate the medical profession to new and greater heights of achievement in service for mankind.

The need was never greater for effective organization and unanimous effort of members than at this time, and every practicing physician should give unsparingly of his time and thought to the end that the profession shall measure up to high standards that tradition has set for it, and justify the faith the public has always manifested in it.

An enlightened people are fast discarding the unlicensed poser, the faker, and the plain, out-and-out swindler. Education has been a more effective weapon against these than legal statutes. Within the past month, two of these illegal practitioners have gone to their final reward, if any, and while they had both successfully escaped legal prosecution, they had been convicted of incompetency by those on whom they had preyed, and both died penniless.

Some legislation desired by certain groups of the profession has failed of enactment, but any law or laws that are just, fair and needful and are sponsored by a united profession will receive favorable consideration at the hands of our legislators. All suggestions for new laws, amendments, or repeal of present laws should be referred to the House of Delegates through the Committee on Public Relations for consideration, discussion and appropriate action.

President Northcutt: Report of the Committee on Scientific and Commercial Exhibits, Dr. Vance, Chairman.

C. A. Vance, Lexington: Mr. President, your Committee reports that the commercial exhibits were selected with a great deal of care, and you will find many useful and interesting articles for sale and on exhibit.

The scientific exhibits are a post-graduate course in themselves, and we hope all of you will spend a lot of time with them.

President Northcutt: Report of the Committee on Woman's Auxiliary, Mrs. E. A. Barnes, President.

Secretary McCormack: I would like to suggest that the former Presidents of the Woman's Auxiliary stand that the House of Delegates may have the privilege of knowing those women who have furnished the splendid leadership of this organization in the past. (Applause.)

Mrs. E. A. Barnes, Albany: Mr. President and Members of the House of Delegates, Auxiliary Members, and Visitors: It is with great pleasure that I bring you greetings from the Auxiliary to the Kentucky State Medical Association. We hope this will be your most enjoyable and profitable annual meeting.

This year we also wish to express our pride and glory at having two such distinguished men of the profession as Dr. Irvin Abell, President-Elect of the American Medical Association and Dr. A. T. McCormack, President-Elect of the American Public Health Association.

In Paducah last fall we were honored by having a few doctors lecture to us on some valuable subjects.

For this year we have used as our guide fifteen aims.

1. Be guided by our Advisory Council.
2. Each Auxiliary study and know the State Health laws.
3. Promote the sale and study of Hygeia.
4. Promote unity and friendship through fellowship, assisting in entertainment at county, district and state meetings.
5. Sponsor child health and welfare programs with other organizations.
6. Sponsor the sale of ads and stimulate interest in the Quarterly.
7. Continue work on the Jane Todd Crawford project.
8. Further the aims of the Doctor Shop.
9. Each Auxiliary appoint all State Chairmen approved by State Committee.
10. Study class on cancer control, tuberculosis, and their prevention.
11. News items of doctors' families and Auxiliary activities be sent in to the Editor before the first of December, June, March and September.
12. Develop radio programs and increase listening audiences.
13. Each Auxiliary file Constitution and By-Laws with the State Parliamentarian.
14. Familiarize ourselves with the life and works of Dr. Joseph N. McCormack and help erect a memorial in his honor at Bowling Green.
15. Be familiar with the American Medical Association and keep in close touch with the Southern Medical.

Radio programs have been sponsored and the laity urged to listen in.

Our Archives Chairman, with the help of the State Board of Health, prepared a map showing all flooded area over the state and where medical centers were, with each organized Auxiliary and their outstanding work shown on the map.

The Doctor Shop in Harrodsburg has received some new equipment, but the State Chairman, Mrs. Lukins, reports some work is needed to make the shop presentable.

Some auxiliaries observed Doctors' Day by honoring Dr. J. N. McCormack; this being our newest project, we have sent to all county presidents a State Health Law book, as we feel this will be some of his first works to learn. Next was the short biography written by his wife, a deceased charter member.

We affiliated with the Field Army on cancer control and assisted them to organize by districts.

Hygeia has been put in several high schools and nineteen subscriptions sold.

We have been the first Medical Auxiliary to undertake venereal disease work. Some members have toured their county giving separate lectures to the high school boys and girls. Graves County stands at the top of the list.

One county gave $15 to cancer control and assisted in lectures along this line in different organizations, namely women's clubs, missionary societies, Sunday schools, and teachers associations.

A doll party was given in Louisville and dolls shipped to Hyden, Kentucky. Boxes of necessary articles were mailed also. One donation of $20 was given to buy boys' knives and overalls.

Another Auxiliary ordered plays from the American Medical Association and sponsored them in the Glasgow high schools and one colored school. An essay contest was given and a book awarded as the prize.

Every paid and unpaid member in the state was mailed a personal letter with the printed aims for the new year enclosed.

To date we have around 500 members paid, two new Auxiliaries, one a district in the Licking Valley, the other Madison re-organized.

Luncheons, teas, banquets, study classes, have been given over the state.

We are so proud of the Quarterly. Do you know, we are the only state in the American Medical Association that has anything like it. It is run by a hard-working Editor and her staff by the sale of ads.

The Jane Todd Crawford project is under way, and the State Chairman is getting flower seeds from different states to plant on the trail. If I may be personal a moment, I sent moon flowers. Dr. Barnes suggested morning glories, as he thought they would be more appropriate, but Mrs. McCormack agreed with me that moon flowers were more beneficial to the medical profession.

I as state President have not visited with the county organizations as one should. I have been to one all-day sewing party at Glasgow, the annual luncheon in Louisville, and the doll party, also the Southern Medical Association in Baltimore and the American Medical Association in Atlantic City.

The flood that swept our state can never be forgotten, and I can point with pride to the medical men and women and Auxiliary members who all seemed imbued with the deep desire to help suffering humanity. Our motto as a medical Auxiliary member is to build a bigger and better Auxiliary and a stronger and healthier human race.

I don't believe that the Woman's Auxiliary has ever asked you men for any money, and tonight we are going to ask you for some money, you probably won't like us as well afterwards. The project is under way to build the memorial to Dr. Joseph N. McCormack at Bowling Green, and we are going to ask that you give us subscriptions, and we don't think you should start with anything under $10. Dr. Stilley, would you speak on this subject?

V. A. Stilley, Benton: It is rather hard for me to talk about this memorial to Dr. J. N. McCormack without getting up a good deal of emotion. I think we could do nothing in the world that would be nicer and better than a memorial to Dr. J. N. McCormack and get the help of organized medicine all over the country. Some of us older ones remember when he was the organizer for the entire United States and was sent from one state to the other. I can remember when I was a boy he took me under his wing and I learned to love him, and I don't know of anything in the world that I would rather do now than to contribute $10 toward Mrs. Barnes' memorial for Dr. J. N. McCormack.

T. A. Frazer, Marion: I'm not nearly as old as Dr. Stilley, but I was a boy when I first knew Dr. McCormack. I learned to love him early in life. I was in his home many times. I remember once I got a telegram from Dr. McCormack to "Come to Bowling Green today. I will meet you at the train at ten o'clock." I didn't ask any questions. I took the first train out and he met me. At that time Arthur McCormack was Public Health Officer of the Panama Canal Zone. They were the most critical times of the Association. Dr. J. N. McCormack called that meeting because the wolves were at the door and were trying to disrupt the organization of medicine in the State of Kentucky, and Dr. McCormack, as usual, called on us country doctors to help him. We had been used to the things he was used to in his early life. When I got there I found doctors from every section of Kentucky. He had prepared food for us. At two o'clock in the morning when we came away from there we felt we had done but little, but in a few short days the situation changed in Kentucky and the sun was shining brightly.

No man among all my friends got so close to my heart as Dr. J. N. McCormack. He was one of the most delightful companions that I have ever known; he was one of the most faithful friends, he was one of the most thoughtful men, and when he was reorganizing the medical profession of the United States, he went from state to state speaking for the doctors and visited every state in the

Union and spoke to the medical profession and consummated almost single-handed the reorganization of the American Medical Association. The plan for the state and county medical societies today was born of his efforts, and the success of the American Medical Association today is more due to the labors of Dr. J. N. McCormack than of any man living or dead. It will be a pleasure to me to contribute $10 to this memorial. (Applause.)

John W. Scott, Lexington: I consider it a privilege to add my contribution of $10.

V. A. Stilley: Mrs. Barnes, you are the Chairman of this, you can collect the money. Here's mine.

President Northcutt: I just suggested to the President of the Auxiliary that this is only a part of the Kentucky Medical Association and that she might appoint a committee out of her group to wait on each and every doctor of this Association and not take up the time tonight. This is not nearly all the doctors. Does that meet with your approval?

Mrs. Barnes: It does, because this is only the House of Delegates for the present year. If you will give us the privilege of coming into the general meeting, we will do it, Dr. Northcutt, and I will appoint Mrs. Stilley and Mrs. Blackburn and Mrs. Botts to serve on the committee to see the men when they are in session.

President Northcutt: I believe that will be more effective. I believe it is a matter that we could talk a long time about, so many of his friends are so full of talk about him that I don't know when you would ever quit.

We will call for the next report, that of the Committee on the McDowell Memorial, Dr. Abell, Chairman.

Irvin Abell, Louisville: We are happy to report that we have been successful, through the cooperation of the officers and members of this Association and of the Southern Surgical Association, the Southeastern Surgical Congress, the American College of Physicians and the American College of Surgeons, in raising a total fund of $11,090.88 for the purchase and furnishing of the Ephraim McDowell Home.

The list of twelve of the donors for this fund was contained in the Journal for September 1936 as Exhibit F on page 408. These names are repeated this year at the end of the list of contributors in the September 1937 Journal on page 422. Unfortunately, this year in correcting the proof the printer omitted two lines in the list of custodians. The names omitted were: Drs. Louis Frank, Louisville; E. S. Frey, Louisville; D. P. Hall, Louisville; John D. Jackson, Danville, and W. O. Johnson, Louisville. In the permanent record, of course, these names will be included, and Dr. Lukins' initials will be corrected from J. D. to J. B. The following corrections in the permanent record will also be made: The name of Dr. William T. Black, of Memphis, Tennessee, is omitted from the members of the Southeastern Surgical Congress, and the names of Drs. C. N. Carraway, of Birmingham, Alabama, and George Edward Follansbee, of Cleveland, Ohio, will be corrected in the list of Fellows of the American College of Surgeons. The names of Drs. Emanuel Libman, of New York City, and Henry Snure, of Los Angeles, California, will be corrected in the list of Fellows of the American College of Physicians.

We reported last year that the research of Mr. Donald Corley, Chief Architect for the Works Progress Administration, from Washington, had established as a fact that the pool room which immediately adjoins the property we have purchased and transferred to the state was unquestionably Dr. McDowell's Doctor's Shop. Acting under instructions last year we have now undertaken the collection of a fund for the purchase of this building and especially through the fine assistance of the American College of Physicians and the Southeastern Surgical Congress we have received $1,270 in donations for this purpose. We have a balance in the joint McDowell property fund of $1,637.75. This is not enough to purchase the Doctor's Shop or provide for the bronze statue which we had hoped to erect. We suggest that the Committee be continued with instructions to secure the additional funds necessary for the completion of the restoration of the Home as a public and professional shrine.

The restoration of the Home is progressing very slowly, as seems to be necessary in the rehabilitation of these old places. This restoration project has received constant interest and support of General Bailey P. Wootton, the State Park Director. It has been under the immediate supervision of Mr. C. Julian Oberwarth, the distinguished architect of Frankfort. Mr. Oberwarth reported to us last month that with the exception of the floors the job is progressing nicely. He is having some difficulty in securing material to match the old floors. He advises us that the doors, shutters and miscellaneous items for the completion of the job have been received and most of them have been placed. The plastering has been completely restored and the painting has been started. Another delay is in the restoration of the hardware. This has required considerable research and there are certain complications in the Works Progress Administration policy for such purchases that have caused additional delay.

We are very happy to exhibit to you the

knocker that was on the door of McDowell Home at the time of the famous first ovariotomy. You will recall that the elder Dr. Gross, one of the founders of this Association, delivered the dedicatory address at the dedication of the monument to McDowell erected in Danville in 1879. Following the delivery of the address, this knocker was presented to Dr. Gross by Dr. Richard O. Cowling, who presented it jointly to the College of Physicians of Philadelphia and to the Philadelphia Academy of Surgery, two of the oldest and most distinguished medical organizations in America.

On December 21, 1936, the Chairman of your Committee wrote the following letter:

Dr. Alfred Stengel,
Maloney Building,
Philadelphia, Pa.

Dear Dr. Stengel:

I am writing you as Chairman of the McDowell Memorial Committee asking the consideration of the College of Physicians of Philadelphia regarding the donation by it of the McDowell knocker. The McDowell home in Danville was purchased by the Kentucky State Medical Association and in turn transferred to the Kentucky State Department of Public Property under the Division of State Parks, thus insuring its permanency.

A grant of $13,500 from the WPA was secured for the purpose of restoring the property to its original condition. Work on this began on August 10th and will continue until restoration is complete. While the title of the property is vested in the State of Kentucky, a committee chosen from the Kentucky State Medical Association, and from the donors of funds for its purchase, will have control of its operation as a shrine to the memory of Dr. McDowell. Since the perpetuity of the building has been established, we are securing mementoes and relics of Dr. McDowell for the purpose of housing them in this building.

The Kentucky State Medical Association through its Memorial Committee will be very grateful if the College of Physicians of Philadelphia can see its way clear to contribute the knocker to the restoration of the building.

With assurances of my regards, I am,
Very sincerely yours.

On January 26, 1937, we had this reply:

Dear Dr. Abell:

Your request of December 21 concerning the possibility of our making available to the McDowell Memorial Committee the knocker from Dr. McDowell's home is under consideration by the Council.

Before making a decision, Council wishes to consider all of the obligations possibly involved in the matter.

As soon as a decision is reached I will write you concerning the matter.

Yours respectfully,
(Signed) J. Harold Austin, M. D.,
Secretary.

On April 10, 1937, we were made very happy by receiving the following letter and the knocker:

My dear Dr. Abell:

The College of Physicians of Philadelphia has received your request for the transfer to your Society of the door knocker to the house of Ephraim McDowell, that was presented to Dr. Gross and by him deposited in our care. It is understood that your request is for the purpose of completing the restoration of Ephraim McDowell's house as a memorial.

The Council of the College found itself sympathetic with your request. It took into consultation in this matter the Philadelphia Academy of Surgery, an organization in which Dr. Gross was deeply interested and which, it appears, he intended should receive the McDowell knocker. This Academy also found itself sympathetic with your request.

Acting upon the decision of these two bodies, the door knocker to the original house of Dr. McDowell is herewith transferred to your Society to aid in the restoration. It is felt that it would make a proper addition to your Foundation for the memory of this surgeon, and that very probably Dr. Gross would be glad to see it in its former place.

The history of this knocker starts with an episode described by Dr. Gross in his autobiography, pages 74 and 75; the description can be paraphrased as follows:

Dr. Gross was invited in February 1879 to deliver on May 14 the public address at the dedication of the monument erected at Danville, Kentucky, by the Kentucky State Medical Society in honor of Dr. Ephraim McDowell. He gladly accepted, as he had been mainly instrumental in placing McDowell's claim upon a fixed and permanent basis. Immediately after his address his former pupil, Dr. Richard O. Cowling, presented to Dr. Gross, on behalf of the Kentucky State Medical Society, the McDowell door knocker.

In responding to this gift, Dr. Gross said: "This gift is now in my possession and I intend to give it ere long to the Philadelphia Academy of Surgery."

The College of Physicians maintains a room in which the library of Dr. Gross, his portrait of his son and other memorabilia are preserved. The McDowell door knocker has hung there since the establishment of this room. It is the intention of the College of Physicians to have a photograph made of this door knocker, to frame it and hang it in the accustomed place of the original piece.

Since this gift was apparently designed for the Academy of Surgery, by which body it was placed in the charge of the College of Physicians where it has been maintained and displayed for fifty-eight years, the College and the Academy would be very glad to see the knocker's history attached to it in its display in the memorial building.

The College of Physicians and the Academy of Surgery send congratulations to the Kentucky State Medical Society upon their ability to reclaim and restore the dwelling of Dr. McDowell, and they express the hope that it will remain forever as a tribute to and a stimulant from that bold, yet thoughtful, surgeon, who laid the foundation for the development of so important a branch of our calling.

Yours very truly,

(Signed) GEORGE P. MULLER, President,
College of Physicians.
(Signed) DAMON B. PFEIFFER, President,
Philadelphia Academy of Surgery

Identical expressions of gratitude were written to Dr. George P. Muller, President of the College of Physicians of Philadelphia, and Dr. Damon B. Pfeiffer, President of the Philadelphia Academy of Surgery on May 29, 1937, as follows:

It is my very pleasant task, as Chairman of the McDowell Memorial Committee, acting under express authority of the Committee at a meeting held here today, to express to the College of Physicians of Philadelphia and to the Philadelphia Academy of Surgery our very profound appreciation of your great generosity in returning to us the knocker from the McDowell door, which was presented to Dr. Gross on the occasion of the dedication of the McDowell Memorial in 1879.

Next to the house itself this will be our greatest treasure, not only because of its association with Dr. McDowell and his family, but also because its sentimental value has been so greatly enhanced by its ownership by the older and younger Gross, Dr. Osler, and by your two great organizations. The knocker and its history will be properly placed in the building when the restoration is complete.

You will be interested in knowing that the restoration is almost complete. As soon as this has been done we will arrange for the opening, and I now want to express the hope that your two great organizations may be represented at that time.

Please permit me to add my personal gratitude to that of the Committee for this expression of the close relationship which has been historical between the profession of your great city and that of Kentucky.

Concluding the acceptance of this most valuable gift, your Committee recommends the adoption of the following resolution:

BE IT RESOLVED by the Kentucky State Medical Association in formal session assembled: That the gift of the original knocker of the McDowell home by the College of Physicians of Philadelphia and the Philadelphia Academy of Surgery, be accepted, and

That the gratitude of this Association be extended to these illustrious organizations, and

That the McDowell Memorial Committee be instructed to arrange for a suitable cabinet for the knocker in the restored home, and

That its history be attached, and

That photostatic copy of the history be transmitted to the College of Physicians of Philadelphia and to the Philadelphia Academy of Surgery for their permanent record.

Your Committee further desires to express its profound appreciation of the continued generous interest of Miss Weissiger and her sister, Mrs. Hardin, who so graciously assisted us in securing the property and who have offered to provide certain pieces of period furniture for the home, together with a plate showing the interest of their family in its preservation. These patriotic women have further presented to the state the extensive property immediately fronting the McDowell home in which the original Kentucky Conventions were held and in which the first Constitution of the State was formulated. This entire property will be under the control of the State Park Commission and will make a complete historic shrine in Danville which will be unexcelled in its appeal and interest by any other similar area in the whole United States.

Your Committee further recommends that it be authorized to assist General Wootton in the furnishing of the home; in securing from the McDowell heirs and others such memorabilia of McDowell as should be included in it; that it be authorized to make arrangements for the dedicatory exercises at a convenient time; and that when this Association adjourns it adjourn to meet at the call of its President for the purpose of dedicating the McDowell shrine.

Respectfully submitted,

Committee: C. A. VANCE
LOUIS FRANK
C. C. HOWARD
RICE COWAN
IRVIN ABELL, Chairman.

T. A. FRAZER, Marion: I move the report be received and filed. The motion was seconded and carried unanimously.

IRVIN ABELL: We have the knocker and

the plaque on which it has hung for fifty-nine years in Philadelphia. I will leave it here, and those who care for closer inspection may come up after the session is over. (Applause.)

President Northcutt: Next is the report of the Committee on Medical Education, Malcom D. Thompson, of Louisville, Chairman.

Malcom D. Thompson, Louisville: In keeping with its policy of public service, the medical profession not only attempts to prevent and treat disease, but obligates itself to educating each year a sufficient number of worthy students to continue its work. In addition, at considerable cost both in time and money, it engages in various forms of post-graduate education so the public may and does receive the best medical service which is possible with our present state of knowledge.

In educational work, the most noteworthy event of the past year was the observance of the Centennial of the University of Louisville. Under the direction of Dr. Kent, Dr. Moore, and a committee of alumni, a series of lectures, clinics, and addresses were held. These were conducted by scientists and educators from our own state and elsewhere. All of the sessions were well attended; they were highly instructive, and a great degree of interest was shown by not only the profession but by lay friends of the profession. The Centennial afforded an opportunity to direct attention to the illustrious history of the University, and a series of articles upon the history of the Medical School which appeared in the Kentucky Medical Journal are of particular interest to the members of this Society. Furthermore, the Centennial year was an appropriate time to point out the present needs of the University and its greatly increased opportunity for future service.

Your Committee is unable to offer any special suggestions concerning undergraduate instruction, as the faculty of the Medical School has directed so much time, effort, and study to this subject that nothing can be added to their labors.

The important subject of post-graduate instruction is being amply covered by a special committee of this society. We wish to urge a continuance of this Committee, and call your attention to the efforts of Dr. D. Y. Keith and Dr. Philip Barbour in making its work such a signal success.

Your Committee believes that a neglected phase of medical education is the failure of some of our members to take the necessary time and effort to instruct the internes upon their services. We regret to say that a number of internes have complained to us concerning this matter. A little time and effort spent in properly guiding their instruction will be more than doubly repaid by improved work upon their part and aid materially in increasing the efficiency of the entire hospital staff.

In conclusion, permit us to say that a great opportunity for public service lies before every member of this Society by his or her directing the attention of the public to the great needs of medical education at the present time. These needs are much greater now than formerly because of recent discoveries and advancement in all fields of science. It costs money to run medical schools, to conduct post-graduate courses and to maintain libraries. We have every confidence that many of our wealthy citizens will give or bequeath sums for the erection of buildings, the purchase of apparatus and books, and the endowment of chairs and scholarships if the matter is only explained clearly to them, and it can be done more appropriately by their personal physician than by anyone else.

Respectfully submitted,
Ewing Palmore
J. G. Renaker
Malcom D. Thompson, Chairman.

President Northcutt: Next is the Extension Course Committee report, by D. Y. Keith. Dr. Philip Barbour will give that report.

Philip F. Barbour, Louisville: Dr. Keith has asked me to present his report. If you will allow me a moment of personal privilege, a great many years ago I delivered a commencement address in this very hall. The subject of my commencement oratory was The Relation of Poetry to Civilization. It is a remarkable thing that since that time there hasn't been a great poet, and civilization has about gone to pot. (Laughter.)

The educational program for this year has resulted in eight meetings being held in the following districts:

May 18, 6th and 7th Districts, Danville.
May 10, 3rd District, Russellville.
May 27, 5th District, Carrollton.
May 29, 11th District, Harlan.
June 10, 8th District, Williamstown.
June 17, 10th District, Lexington.
June 7, Daviess County, Owensboro.
Aug. 26, 5th District, Frankfort.
(Pediatric Program)

One of these was a pediatric program at Owensboro in July, and we are informed by Dr. Barbour that there are other pediatric programs to be held in October and November.

We have attended a few of these meetings, and all have been reported as having an increase in number over the meetings of last year and the year before. I am sure these meetings can be made more valuable and the attendance increased if we can urge the Councilors in each district to visit and arrange for meeting places, and in this way we can get a much better attendance.

I believe if you could urge each of your Councilors to have at least two meetings in their districts each year, or where convenient have a joint meeting as we have had this year in the Sixth and Seventh Districts, and are planning another in these two districts for October, that an increase in interest will be shown. The Committee and Chairman, particularly the Chairman, request your support, advice, and constructive criticism.

I would like to add to this that we are conducting each year a post-graduate course of instruction in the Children's Hospital in Louisville, which has been attended by a good many from our own state and a good many from Indiana.

We put on a program this year and last year in connection with the state meeting, held on the first day of the meeting.

I should like to say also that we will have one next year in connection with the state meeting at Louisville.

One other thing that I think we can do is the extension of the obstetric and pediatric programs in a combined program to be given in various parts of the state. We are at work upon that program now.

I have tried for several years—speaking for myself—to have pediatric meetings carried on through the state, with clinics, and so forth. We have had a number of these. They have been very nicely attended and the meetings have been very agreeable not only to the doctors who were there but to the doctors who delivered the courses. I think we had one letter of request to come back again out of the eight meetings, but I hope we will do better than that next time.

President Northcutt: Report of the Committee on Periodic Health Examination. Dr. Scott, Chairman.

John W. Scott, Lexington: In recent years the propaganda for periodic health examinations has become one of the major objectives of the organized medical profession. The fact that disease in its incipiency can generally be dealt with more successfully than when advanced justifies the effort to persuade the public to submit themselves for examination at certain intervals. Many are being persuaded to seek such examinations and, no doubt, much good has been accomplished. We must admit, your Committee believes, that the great mass of even the intelligent are not doing this, and that the medical profession itself is not convinced of its value as a practical procedure if the number of them who advocate it in their own families is a criterion.

What is the reason for this paradoxical situation? One reason seems to be that most of the profession realize that what the individual expects from such an examination he cannot get without expenditure of time, pains and money out of proportion to both his real needs and often his ability to pay. A woman, for example, expects to be told that she does not have cancer and may, in spite of a negative examination, at that time have cancer of the cervix uteri. How many speculum examinations are made in the periodic health examinations? Or a man may expect to be told that he does not have heart disease and may without clear symptoms or signs have fatal coronary thrombosis within a week. Countless similar examples of grave disease not readily recognized suggest themselves. Many of these can be discovered only by specialized means of investigation. To submit all to these laborious and expensive procedures is absurd. The task of the examiner is to determine chiefly by analysis of the patient's story whether anything beyond a general physical examination is needed and if so to have this competently performed. After all, symptomatology is the foundation stone of diagnosis.

Your Committee wonders whether the importance of any unusual symptom is not the thing chiefly to be taught the layman, for instance, that spotting between the periods, or a little blood in the urine, or persistent colicky pains and flatulency, or pain in the chest on exertion, that any of these or any unusual occurrence in bodily functions should be brought to the attention of the doctor. Too often reassurance after a negative health examination leads the individual to disregard subsequent symptoms. The wise physician in all of this, while avoiding the Scylla of somatic disease, will steer clear of the Charybdis of neurosis. How many neurasthenics have been fired up by Cancer Week, anti-tuberculosis propaganda, heart disease agitation, and the like?

Your Committee recommends that the objective of the periodic health examination be, first, after analysis of the individual's history and after general physical examination, to advise the patient, as the case may be, (1) not that he is well, but rather that he has no evidence of disease and no reason to be disturbed, or (2) that he has certain disorders, or (3) that he should have further examination of some special sort, the point being that the patient after a cursory examination should not be told that he is well, but only in case his symptoms are not disturbing to the intelligent questioner that he does not seem to present any evidence of disease and that really thoroughgoing examination is not necessary.

Your Committee believes that impressing the layman with the importance of not disregarding disorder of bodily functions or of any abnormality is of even greater importance than having him in apparent health submit to periodic examinations.

President Northcutt: Some of these reports were more than reports and have been very interesting. I am sure we have all enjoyed them. Are there any other reports?

The following report of the Committee on Crippled Children was received and filed:

It has been deemed wise for all organizations to centralize their work through the Kentucky Crippled Children Commission. Therefore, this report will cover the activity of all agencies. During the fiscal year beginning July 1, 1936 and ending June 30, 1937, the appropriation by the state was $75,000, which was a reduction of $35,000 over the previous year. However, the Social Security Act of the federal government matched the state appropriation, which totaled $150,000. During the fiscal year the Commission provided treatment for 1,079 individual cases, which was an increase of 210 over the previous year. Three hundred and forty of the cases treated were readmitted for treatment from one to eight times, making a total of 1519 admissions and readmissions during the year, or an increase of 280 admissions over the previous year.

For the purpose of examining crippled children in various sections of the state, twenty-seven free diagnostic clinics were held at the following points: Bowling Green, Owenton, Harlan, Mt. Sterling, Hopkinsville, Paintsville, Columbia, Bardstown, Ashland, Beattyville, Greenville, Owensboro (two clinics), Paducah (two clinics), Newport, Shelbyville, Harrodsburg, Covington, Hazard, Whitesburg, Henderson, Somerset, Pikeville, Middlesboro, Maysville, Barbourville. Examinations at these clinics totaled 2,153, an increase of 390 cases over the number examined the previous year. Monthly clinics were held in Ashland and weekly clinics in Lexington. 562 cases were examined in these clinics, making a total of clinic examinations for the year equalling 2,715 or an increase of 50 per cent over the previous year.

In addition to the cases which attend the clinics throughout the state, the Commission's main office in Louisville receives daily applications for treatment. During the year, 752 cases visited the office and were sent for examination and recommendation to the various physicians and surgeons in the city who cooperate with the Commission

From the beginning of the work for crippled children in this state the medical profession as a whole has loyally supported the Commission. The orthopedic surgeons form a professional advisory committee to assist the Commission by holding clinics and treating patients admitted to the hospitals. The Commission feels that not only the crippled children whose deformities have been corrected but the taxpayers of the state are indebted to the members of the medical profession for their indispensable services whose value cannot be estimated in dollars and cents.

The State Health Commissioner, Dr. A. T. McCormack, and the directors of his county health units are active in promoting the Commission's diagnostic clinics and cooperate in following up and reporting cases that need the Commission's attention. To all members of the Kentucky State Medical Society the Commission expresses gratitude for the interest and cooperation that help carry on the state's program of service to the indigent crippled child.

Committee:
Charles C. Garr
O. R. Miller
W. B. Owen, Chairman

Secretary McCormack: Mr. President, we have had prepared very carefully and have had made a very interesting motion picture of the activities of the profession during the recent flood. We have the five reels of those pictures here. The only chance for their exhibition will be following the meeting tomorrow night if enough of the members desire to have them shown. I would like to have instructions from the House as to whether they should be shown.

A motion was regularly made, seconded, and carried that the pictures be shown.

Secretary McCormack: The House of Delegates will adjourn unless there is reason for calling a special session, until Thursday morning at seven o'clock in this room.

President Northcutt: If there is no more business we will stand adjourned.

The House adjourned at 9:00 p. m. o'clock.

HOUSE OF DELEGATES
THIRD SESSION

Thursday Morning, September 16, 1937

The third and final session of the House of Delegates convened at 7:00 a. m., President Reynolds presiding.

President Reynolds: The House will come to order.

I think it is well to announce at this time that no person who is not present at this meeting can be nominated for President or Vice President. Such nominee must be present at some time during the meeting. We will have the roll call. The Secretary called the roll.

SECRETARY MCCORMACK: Mr President, there is a quorum present.

PRESIDENT REYNOLDS: We will now proceed to the election of a President Elect.

J. DUFFY HANCOCK, Louisville: In line with the usual geographical rotation of officers, it is the privilege of Jefferson County to offer for your consideration this time one of its members for the office of President Elect.

This position, while a most honorable one, is not simply an empty honor, but one that carries with it grave responsibilities at any time. We feel that at the present time, with the stress and change which is going on, with the isms and schisms that we have to fight, we need particularly a strong man. We feel that the man who has this office should be a man of unusual mental capacity, a man of absolute honesty of character, a man familiar with the workings of organized medicine, a man who can be a gracious loser as well as a generous winner, a man who can work with all and be dominated by none. We have such a man to present, and it is the first time in years that the Jefferson County delegation comes with a unanimous choice. This man has been Superintendent of the Central State Hospital at Lakeland, President of the Louisville Mental Hygiene Society, he has been Chairman of the Section on Neurology and Psychiatry of the Southern Medical Association, President of the Jefferson County Medical Society, he has served two terms as Councilor for the Kentucky State Medical Association, and he is at the present time on the consulting board for the administration in their work to give improved quarters and better personnel for the care of the mentally handicapped of the state.

We feel that this man is a man who has all the qualifications necessary for this office, and in spite of all these qualifications which he possesses, we still think of him first as friend. It is a pleasure to place in nomination for the office of President Elect of the Kentucky State Medical Association, Dr. William E. Gardner, Louisville. (Applause.)

V. A. STILLEY, Benton: The First Councilor District (I have talked to quite a few of our members about this) takes a great deal of pleasure in seconding the nomination of Dr. W. E. Gardner. I have had the pleasure of serving on the Council with him for a number of years; I know he has the interests of the medical profession at heart, and as far as I am concerned I don't think there is a man in the medical association that deserves this honor any more than Dr. Gardner. We heartily endorse him.

H. H. HUNT, Mayfield: The delegation from West Kentucky wants the privilege of thirding that nomination.

PRESIDENT REYNOLDS: Are there other nominations?

A motion was regularly made, seconded, and unanimously carried that the nominations be closed.

SAM P. MYER, Louisville: I move that one ballot be cast.

The motion was seconded and unanimously carried and the Secretary cast the ballot.

PRESIDENT REYNOLDS: W. E. Gardner has been elected President Elect of the Kentucky State Medical Association. (Applause.)

Nominations are in order for Vice Presidents.

SECRETARY MCCORMACK: In the election for Vice-Presidents, according to the custom that has developed, we elect three, one from Eastern, one from the Fifth District, and one from Western Kentucky. This year the First Vice President will come from Western Kentucky, the Second Vice-President from Eastern Kentucky, the Third Vice-President from Louisville, which is the order in which they will be placed on the list.

H. H. HUNT, Mayfield: As representative of the delegates from Western Kentucky, representing six counties down there, it is a privilege and a pleasure this morning to nominate Dr. Jacob Mayer of Mayfield.

PRESIDENT REYNOLDS: He is not registered at this meeting.

H. H. HUNT: Mr. President, I will place in nomination E. B. Willingham of Paducah.

PRESIDENT REYNOLDS: He is a delegate.

W. B. ATKINSON, Campbellsville: There is no objection to somebody from the central part of the state being considered east or west, so I want to place in nomination a man who is rather retiring, who is one of the best powers in medicine that the State Association has ever had, and a man who will grace the job of Vice President very well indeed. I want to nominate E. L. Gowdy of Campbellsville as Vice President from Eastern Kentucky.

The nomination was seconded by J. B. Lukins.

V. A. STILLEY, Benton: I want to nominate E. W. Jackson of Paducah, Vice-President from West Kentucky.

H. H. HUNT, Mayfield: I want to second that nomination.

ULY H. SMITH, Louisville: I would like to submit the name of Frank M. Stites of Louisville as Vice President for the Fifth District.

SECRETARY MCCORMACK: I would like to second that nomination. I have been associated with Dr. Stites and he will perform the job well.

T. A. FRAZER, Marion: If there be no objection, I move that the nominations close.

LOUIS FRANK, Louisville: I object. I would like to place in nomination the name of a man from the eastern part of the state as one of the Vice Presidents, Dr. Bailey of Harlan.

SECRETARY MCCORMACK: Dr. Bailey is a delegate and is not eligible.

A. CLAYTON MCCARTY, Louisville: I move the nominations be closed, Mr. President.

SAM P. MYER, Louisville: I second the motion.

C. A. VANCE, Lexington: I object to that motion. I would like to nominate Dr. Robert Sory of Richmond for Vice President from Eastern Kentucky. Dr. Sory has been Chairman of the Committee on Arrangements twice for this meeting, once in '28 and once this year, and I feel that he should be elected from Eastern Kentucky instead of anybody else.

The nomination was seconded by Dr. Myer and Dr. McCarty.

W. B. MOORE, Cynthiana: I nominate J. O. Orr of Paris.

CHARLES DAUGHERTY, Paris: Dr. Orr has been one of the greatest workers in this Association; at any time there was anything to be done he has done it, and I second his nomination.

A. CLAYTON MCCARTY, Louisville: I move the nominations close.

The motion was seconded and unanimously carried.

ULY H. SMITH, Louisville: I move that the Secretary cast one ballot each for the candidates from Louisville and Western Kentucky.

The motion was regularly seconded and unanimously carried and the Secretary cast the ballots.

PRESIDENT REYNOLDS: Dr. Stites and Dr. Jackson have been elected to the Vice Presidencies from Central and Western Kentucky.

The ballot will be spread and you will vote for Vice President from Eastern Kentucky. I appoint as Tellers S. C. Smith, Ashland; E. E. Smith, Bardwell; Louis Frank, Louisville, and C. C. Howard.

SECRETARY MCCORMACK: The candidates are Dr. Sory from Richmond, Dr. Gowdy from Campbellsville, and Dr. Orr from Paris.

The ballot was spread.

PRESIDENT REYNOLDS: Dr. Sory is elected Vice President for Eastern Kentucky as the result of your ballot.

The next office to be filled is that of Delegate to the American Medical Association.

CHARLES W. HIBBITT, Louisville: Probably the gentleman I nominate will be elected unanimously, but I feel that in presenting this gentleman's name we are presenting a man who has served the society, the local society, the state society, and the A. M. A. He is thoroughly familiar with the requirements of a Delegate to the A. M. A. He has furnished us with accounts of the proceedings of the A. M. A., and I want to present the name of Dr. Virgil Simpson, asking his return to the A. M. A. as delegate representing our state. (Applause.)

JOHN W. SCOTT, Lexington: I wish to second the nomination of Dr. Simpson. I want to call attention to only one of his many qualifications for this office, and that is the fact that we have never had any delegate, good as they have been, who has visualized the American Medical Association to this Association as Dr. Simpson has.

T. A. FRAZER, Marion: I move the nominations be closed.

The motion was seconded and carried unanimously.

A. CLAYTON MCCARTY, Louisville: I move one ballot be cast.

The motion was seconded and unanimously carried and the Secretary cast the ballot.

PRESIDENT REYNOLDS: Dr. Simpson is elected Delegate to the American Medical Association.

Nominations are now open for Orator in Surgery.

JOHN W. SCOTT, Lexington: I wish to nominate a man for Orator in Surgery who as a distinguished former Congressman from Lexington used to say is scarce entering upon middle life. He has already made a name for himself as a surgeon. He has a splendid background of education and culture which will enable him to present to us a splendid Oration in Surgery, and I wish to nominate Dr. Francis M. Massie of Lexington.

SAM P. MYER, Louisville: I would like to second the nomination.

LEON HIGDON, Paducah: I second the nomination.

LOUIS FRANK, Louisville: I am without instructions as to Jefferson County, but I take very great pleasure in seconding the nomination of this cultured, gentlemanly, genial surgeon of Lexington for Orator in Surgery.

CARL NORFLEET, Somerset: I move the nominations close.

The motion was seconded and unanimously carried.

A. CLAYTON MCCARTY, Louisville: I move one ballot be cast.

The motion was regularly seconded and

carried unanimously and the Secretary cast the ballot.

President Reynolds: Dr. Massie has been elected Orator in Surgery.

Nominations are in order for Orator in Medicine.

C. C. Howard, Glasgow: I think all you men here know Dr. Clark Bailey of Harlan. He is as fine a doctor and as fine a gentleman as you will find in Kentucky. I wish to nominate Clark Bailey for Orator in Medicine.

The nomination was seconded by several delegates.

Uly H. Smith, Louisville: I move the nominations be closed.

The motion was seconded and carried unanimously.

A. Clayton McCarty, Louisville: I move the Secretary be instructed to cast the ballot.

The motion was seconded and carried and the Secretary cast the ballot.

President Reynolds: Dr. Clark Bailey of Harlan is elected Orator in Medicine.

Nominations for Councilor of the Seventh District to succeed Dr. Virgil Kinnaird of Lancaster.

S. C. Smith, Ashland: I move he be re-elected to succeed himself.

The nomination was seconded.

Sam P. Myer, Louisville: I move the nominations be closed.

The motion was regularly seconded and unanimously carried.

Uly H. Smith, Louisville: I move the Secretary be instructed to cast the ballot of the House.

The motion was seconded and carried and the Secretary cast the ballot.

President Reynolds: Dr. Virgil Kinnaird has been elected Councilor of the Seventh District.

Councilor for the Tenth District.

Secretary McCormack: I want the privilege of nominating for re-election the Chairman of the Council, Dr. Vance.

The nomination was seconded by Dr. Lukins, Dr. Myer, and others.

J. B. Lukins, Louisville: I move the nominations be closed.

The motion was seconded and carried unanimously.

C. C. Howard, Glasgow: I move the ballot of the House be cast.

The motion was seconded and carried unanimously and the Secretary cast the ballot.

President Reynolds: Dr. C. A. Vance is elected Councilor of the Tenth District.

Next is the selection of the place of meeting.

A. Clayton McCarty, Louisville: While I believe it is a mere formality to invite you to Louisville next year because the By-Laws say you must come whether you like it or not, at the same time we want you to know that our delegation representing about a quarter of the membership of the state invites you cordially to come to Louisville next year to the meeting. We will make every attempt to have a good scientific program and to entertain you at least half as well as they have done here, at Paducah, and other places where you have been recently.

Sam P. Myer, Louisville: I move the nominations be closed.

The motion was seconded and carried unanimously.

President Reynolds: You don't have to cast any ballot, Mr. Secretary. I am the President! (Laughter and Applause.) Louisville is selected.

We will next have the report of the Committee on Medical Economics.

A. Clayton McCarty, Louisville: I have a very brief report to make, with an explanatory note. We found that in spite of the fact that this is a rather important committee, it hasn't functioned too well for several reasons, one because of its constituency. Several years ago we made the proposition that one man from each district be put on this Committee. That has made a very unwieldy Committee, and we now make this proposition to you.

The Committee on Medical Economics recommends:

(1) That this Committee be reorganized so that it consists of five members appointed by the President. The first Committee so appointed shall have one member to serve for one year, one for two years, one for three years, one for four years, one for five years. Thereafter one man on this Committee shall be appointed or reappointed each year for a five-year term.

(2) That the Kentucky State Medical Association headquarters shall furnish a paid secretary for this Committee.

I may say that that work has gone forward, one is to be furnished, and I think it is going to be the finest thing that ever happened in this work.

(3) That hospital control practice in the Southeastern portion of the state is reprehensible and should be abolished at the earliest possible moment. To this end the Secretary of this Committee should gather evidence at once upon which prosecution may be based.

(4) That more physicians refer their medical economic problems to this Committee in writing and refer to the columns of the Ken-

TUCKY MEDICAL JOURNAL for pertinent medical economic facts and news.

(5) That the University of Louisville School of Medicine be encouraged again to provide instruction to its students on medical economic matters.

Submitted by the members here: John Scott, Carl Norfleet, and A. C. McCarty.

President Reynolds: You have heard the report of this Committee. What is your pleasure?

Louis Frank, Louisville: I move it be referred to the Council.

The motion was seconded.

John W. Scott, Lexington: It seems to me that if the report is referred to the Council it puts off any action until next year. Meantime I don't know where the Committee stands. It seems to me that this body can take action on that now, and with due respect to Dr. Frank's motion and his opinion on this, as on every other subject, I move as a substitute that the House consider that now.

Louis Frank, Louisville: Speaking to my own motion, if I may, we have here quite a number of men, some of whom are in a hurry to get away, they have not had breakfast, and I hardly think this body can at this time give mature thought and consideration to this resolution, as it demands. The Council may meet at any time to act on this. It does not mean that it is deferred until next year, and I think it does require consideration and thought. There are factors in there that require a good deal of thought, and to pass such a resolution offhand I think is rather unfair.

A. Clayton McCarty: May I say as Chairman of this Committee that the same thing happened to our report last year, for what reason our Committee knew not. Dr. Frank referred it to the Council and we did not hear of any action on it until last night. I don't know how long it took them to formulate the action but we didn't get it until last night in the Committee. The matters of great importance that he speaks of I don't appreciate. The matters mainly have already been done. We are trying again to get the Universty to take some action. They have already been asked to and probably will cooperate by and by; it takes time to get things started. This Secretary has already been appointed. Certainly all of you are highly in favor of trying to abolish this practice in Southeastern Kentucky, which I am sure no doctor would stand behind no reputable doctor. These men are being gone after by your own State Board of Health. The construction of this Committee, cutting it down to a workable committee of five, is something that shouldn't take any mature thought. I would like to see this passed so the Committee can go forward with its work.

John W. Scott: My motion was a substitute for Dr. Frank's motion that the House consider the matter now, and adopt the report.

A. C. McCarty: I second the substitute motion.

President Reynolds: Is there further discussion? You have heard the substitute motion made by Dr. Scott. All in favor of that say "aye," opposed "no". It is carried.

T. A. Frazer, Marion: I want to call attention to a resolution introduced here Monday.

Secretary McCormack: I am going to report for that Committee on Public Relations right now. Dr. Abell asked me to make the report. The Committee on Public Relations desires to report favorably the resolution which I presented instructing the Committee to prepare and present a bill to the Legislative Council in favor of requiring a health certificate before marriage.

T. A. Frazer, Marion: I just wanted to make these remarks. I promised Miss Linda Neville—you all know her, one of the most wonderful women in the State of Kentucky—that I would see this matter was brought up this morning. If I hadn't said something and Miss Linda found it out I would have got choked the next time she saw me.

Secretary McCormack: The Committee on Public Relations reports with its approval the resolution which I offered instructing the Committee to prepare for the Legislative Council an act providing for or requiring health certificates before marriage. If you will permit me to say so, this has been adopted in some twenty states now and will be adopted in all the states.

The President Elect, Dr. W. E. Gardner, Louisville, was escorted into the House.

President Reynolds: Gentlemen, the President Elect of the Kentucky State Medical Association. (Applause.)

W. E. Gardner, Louisville: Mr. President and Gentlemen of the House of Delegates: I want to express to you my very deep appreciation of this honor which you have just conferred upon me, and I want you to realize that I come to you with a considerable feeling of humility. I know full well that there are many men in this Association who are equally capable, and more so, equally experienced in medical affairs to make you a good presiding officer, and I realize furthermore that in the election of the President of this Association there is no spontaneous uprising demanding that any one man should be President to the exclusion of all others. There are many men in this Society who are well qualified to hold this office—not just two or three whose names perhaps become more prominently mentioned at the time of these meetings, but perhaps a dozen or twenty or even more men who would be equally well qualified. There are certain circumstances that I realize full well enter into the nomination of the President of this Society. I am not puffed up or chesty over this thing. I am deeply humble, but I want you to know how sincerely I appreciate it. I realize that it is a big responsibility. I have had many knotty problems to contend with in my life and I want you to know that I am not afraid of this one and I shall go forward and do the best I can. (Applause.)

Louis Frank, Louisville: Mr. Chairman, I move the adoption of the report of the Committee on Public Relations. The motion was seconded and carried.

C. A. Vance, Lexington: Going back to the Committee on Medical Economics, as far as I could hear that question was before the House but nothing was done about it. The motion was just that we consider it.

A. Clayton McCarty, Louisville: Our President and Secretary were present when these things were formulated, so I believe it has their approval.

W. B. Troutman, Louisville: I move you the adoption of the report of the Committee on Medical Economics.

The motion was regularly seconded and carried.

President Reynolds: Report of the Committee on Control of Cancer, Dr. Wallace Frank, Chairman.

Wallace Frank, Louisville: The Committee for Cancer Control begs leave to make this report in brief and to furnish the Journal with a complete report for publication. We thought this year it was better to approach the laymen, as most of our previous efforts have been directed to the medical profession in the consideration of the cancer problem and of the necessity for early diagnosis. In the belief that this was the best method, through our state chairman, Mrs. Heller, we had speakers talk before various women's organizations throughout the state. There were some ten or twelve talks given in Louisville and I think fifteen throughout the state before various women's organizations. In these, the question of cancer that occurs most commonly in that sex, namely, the generative organs, the breast was discussed, the advisability of seeing their physicians early, and especially there was brought forth that they should not be satisfied with the report, "Oh, it amounts to nothing," but insist that the doctor examine them and if he didn't want to do it they should consult another physician and have a physical examination and be guided by that opinion.

This report is in writing, but unfortunately was left at home and therefore I have to make this in brief.

Secretary McCormack: I move the report be received and filed.

The motion was seconded and carried.

President Reynolds: Report of the Committee on Report of the Council, Dr. Orr.

James A. Orr, Paris: Mr. President and Gentlemen of the House: The Committee on Report of the Council begs leave to make the following report:

The past year has probably been the most outstanding for the activities and achievements of the Council, in the history of the Association; notably its activities during the flood situation as indicated in its report are to be commended.

The purchase of a building for the future home of the State Board of Health and the State Medical Association is an achievement that will be a source of gratification to the members of this Association throughout the years to come.

The satisfactory manner in which the business of the Association has been transacted is to be commended.

The stand of the Council for protection against incompetent practitioners and cults should meet with the hearty approval and cooperation of the county societies.

The attitude of the Council in regard to socialized medicine merits the approval of every member of the Association.

The pronouncement of the Council in regard to the appointment of qualified men to serve our state hospitals, instead of making political appointments of these places should have the approval of and be the subject of a special resolution by this Association and of each component county society, and the action thereon sent to the state officials.

The activities and report of the Council should be commended and approved throughout.

Respectfully, submitted,

James A. Orr
J. Duffy Hancock
H. T. Morris

T. A. Frazer, Marion: I move the adoption of the report. The motion was seconded and carried.

Secretary McCormack: I move that the gratitude of the Association be extended to the President of the Eastern Kentucky Teachers' College and to Dr. Sory and the members of the Madison County Medical

Society, especially to the Chamber of Commerce, to the Richmond Register, and particularly to Governor Keen Johnson, its distinguished Editor, to the officers and members of the Woman's Auxiliary, to the Mayor and officials of the City of Richmond, to the County Judge and the officials of Madison County, and to the people of the county for their splendid entertainment of us. (Applause.)

The motion was seconded and unanimously carried.

SECRETARY MCCORMACK: Here is a very important report that has to be read. It is one of the most historic things ever done by this Association. Dr. Smith will read it.

ULY H. SMITH, Louisville: E. L. Henderson, Chairman of the Committee on Flood Relief of the Kentucky State Medical Association, had to leave town unexpectedly last night and he asked me to read this report for him.

On or about February 10, it having been recognized that there were a number of doctors throughout the flooded area of the state who had suffered severe losses during the flood and who really needed help from some source, a committee was appointed by your President, composed of J. D. Northcutt, H. G. Reynolds, A. T. McCormack, C. A. Vance, W. O. Johnson as secretary, and E. L. Henderson as chairman, to study ways and means of aiding doctors in distress as a result of the flood.

The first and most important consideration was the means of raising money for such relief work. The Secretary of the American Medical Association was contacted and a plan suggested that the A. M. A. possibly could provide some funds for this relief work. This plan was put before the Board of Trustees of the A. M. A. and after very careful consideration they decided under the Constitution and By-Laws that there was no way for them to render aid. However, they were very sympathetic and the Secretary suggested that he would be glad to endeavor to raise funds throughout the country from the medical profession for the aid of the doctors in distress. This, however, was not deemed advisable by your committee. Some funds were offered by medical societies throughout the country, but they were not deemed sufficient to really be of material aid. Finally the Kentucky State Board of Health agreed to furnish sufficient funds to aid the distressed doctors by putting them on as health officers in their respective localities and paying them a monthly salary for services rendered to flood victims in their communities.

A letter was sent out to all the Councilors, together with the medical referees and county secretaries throughout the flooded area of the state, requesting information in regard to any doctor in their community who was in distress. It was necessary for your committee to be guided by the suggestion of these officers. In some instances, committees were appointed in the larger places by the county society to investigate the need of the doctors in the various communities.

As a result of this investigation it was found that there were twenty-four doctors throughout the flood area who really were in need of assistance. Each of these doctors was put on a monthly salary for a period of from four to six months, salaries ranging from fifty dollars to a hundred dollars a month as per the need of the individual doctor.

During the period from March 15 to August 15 inclusive, there has been paid by your committee $9900. We have received monthly reports from these doctors and have estimated the services rendered by them to the flood victims in their communities, the estimate being based on the usual fees charged for such services and rendered from the period of March 15 to August 15 inclusive, at $16,354.

Your Committee feels that the Association has not only rendered a great service to the distressed doctors throughout the flooded area, but has rendered even a greater service to the people in these communities who were attended by these doctors.

Respectfully submitted,

E. L. HENDERSON, Chairman.

T. A. FRAZER, Marion: I move the adoption of the report.

The motion was regularly seconded and carried.

SECRETARY MCCORMACK: Mr. President, I have the routine accounts that have been approved by the Council and that are ordered paid at this time by the House of Delegates as representing the appropriations for the year. We are still carrying the 10 per cent cuts in the salaries. Those of us who are getting them think that that should be continued for another year; until the Journal is making money I don't think our depression cut ought to be restored. The accounts are as follows:

1937			
Sept. 1	—Voucher Check No. 1		$ 15,000.00
	A. T. McCORMACK, M.D., Louisville		
	To first payment on building for State Department of Health and Kentucky State Medical Association	$ 15,000.00	
	Approved by Council and Ordered Paid by House of Delegates.		
Sept. 8	—Voucher Check No. 1A		2,100.00
	A. T. McCORMACK, M. D., Louisville		
	To supplies, equipment, partitions and railings for building of the State Department of Health and Kentucky State Medical Association	2,100.00	
	Approved by Council and Ordered Paid by House of Delegates.		
Sept 30	—Voucher Check No. 2		161.00
	A. T. McCORMACK, M.D., Louisville		
	To September salary, Secretary	135.00	
	To sundry expense	26.00	
		161.00	
	Approved by Council and Ordered Paid by House of Delegates.		
Sept. 30	—Voucher Check No. 3		90.00
	L. H. SOUTH, M.D., Louisville		
	To September salary, Business Manager	90.00	
	Approved by Council and Ordered Paid by House of Delegates.		
Sept. 30	—Voucher Check No. 4		90.00
	J. F. BLACKERBY, Louisville		
	To September services rendered Committee on Public Policy	90.00	
	Approved by Council and Ordered Paid by House of Delegates.		
Sept. 30	—Voucher Check No. 5		75.00
	ELVA GRANT, Louisville		
	To September salary, Bookkeeper	75.00	
	Approved by Council and Ordered Paid by House of Delegates.		
Sept. 30	—Voucher Check No. 6		50.00
	ELIZABETH CONKLING, Louisville		
	To September salary, Stenographer for Medico-Legal Committee	50.00	
	Approved by Council and Ordered Paid by House of Delegates.		
Sept. 30	—Voucher Check No. 7		93.10
	CHARLES A. VANCE, M.D., Lexington		
	To expense as Councilor, 10th District	93.10	
	Approved by Council and Ordered Paid by House of Delegates.		
Sept. 30	—Voucher Check No. 8		18.10
	S. C. SMITH, M.D., Ashland		
	To expense as Councilor, 9th District	18.10	
	Approved by Council and Ordered Paid by House of Delegates.		
Sept. 30	—Voucher Check No. 9		50.00
	P. WILLETT HAGAN, C. P. A., Louisville		
	To auditing accounts of Marshall McDowell, M.D., Treasurer, and A. T. McCormack, M.D., Secretary, Kentucky State Medical Association, and Mrs. Edna R. Krieger, former Treasurer, and her successor, Mrs. Luther Bach, Treasurer, Woman's Auxiliary, and Mrs. William H. Emrich, Business Manager, Woman's Auxiliary Quarterly, for the period from September 1, 1936, to August 31, 1937	50.00	
	Approved by Council and Ordered Paid by House of Delegates.		
Sept. 30	—Voucher Check No. 10		33.36
	LOUISVILLE POSTMASTER, Louisville		
	To postage for July and August	33.36	
	Approved by Council and Ordered Paid by House of Delegates.		
Sept. 30	—Voucher Check No. 11		15.10
	BUSH-KREBS CO., Louisville		
	To 3 sq. Copper HT Portraits of Men	10.68	
	To 1 zinc Etching of Chart—5¾" wide	4.42	
		15.10	
	Approved by Council and Ordered Paid by House of Delegates.		
Sept. 30	—Voucher Check No. 12		1.27
	POSTAL TELEGRAPH-CABLE CO., Louisville		
	To telegrams to Nashville, 7-14-37, for Journal	.90	
	To telegram to Lexington, 7-14-37, for Journal	.37	
		1.27	
	Approved by Council and Ordered Paid by House of Delegates.		
Sept. 30	—Voucher Check No. 13		4.74
	WESTERN UNION TELEGRAPH COMPANY, Louisville		
	To telegrams to Owensboro, New Haven, Liggett, Lancaster, Glasgow, Campbellsville, Covington (2), Ashland and Benton, 7-30-37, for Association	4.74	
	Approved by Council and Ordered Paid by House of Delegates.		
Sept. 30	—Voucher Check No. 14		1.53
	RAILWAY EXPRESS AGENCY, Louisville		
	To Express from Bowling Green, 7-12-37, for Journal	.72	
	To Express to Bowling Green, 7-21-37, for Journal	.81	
		1.53	
	Approved by Council and Ordered Paid by House of Delegates.		
Sept. 30	—Voucher Check No. 15		12.38
	ELECTRIC BLUE PRINT & SUPPLY CO., Louisville		
	To 150 Blue Prints	12.38	
	Approved by Council and Ordered Paid by House of Delegates.		
Sept. 30	—Voucher Check No. 16		173.63
	F. & V. MANUFACTURING CO., East Providence, R. I.		
	To 300 Bangles, Richmond, 1937	48.00	
	To 500 Buttons	125.00	
		173.00	
	Postage and Insurance	.63	
		173.63	
	Approved by Council and Ordered Paid by House of Delegates.		

Sept. 30—Voucher Check No. 17			37.54
COURIER-JOURNAL JOB PRINTING CO., Louisville			
To 2,500 inserts of H. G. Reynolds, M.D., for annual number		37.00	
Postage and Insurance		.54	
		37.54	
Approved by Council and Ordered Paid by House of Delegates.			
Sept. 30—Voucher Check No. 18			1.22
MEFFERT EQUIPMENT CO., Louisville			
To 1 No. 103 Ring Binder		1.10	
To 100 No. 103 F Sheets		.25	
		1.35	
Less 10%		.13	
		1.22	
Approved by Council and Ordered Paid by House of Delegates.			
Sept. 30—Voucher Check No. 19			16.10
E. H. ROEDERER, Louisville			
To 250 Delegate Ribbons		12.50	
To 30 Guest Ribbons		2.40	
To 5 Secretary Ribbons		.60	
To 5 Treasurer Ribbons		.60	
		16.10	
Approved by Council and Ordered Paid by House of Delegates.			
Sept. 30—Voucher Check No. 20			649.50
THE TIMES-JOURNAL PUBLISHING CO., Bowling Green.			
To 2,500 September Issue—84 pages		621.00	
To Inserts		5.00	
To Inserts Scored		8.50	
To 6 pt. Tabular		45.00	
To Plates for Tables		20.00	
		699.50	
Credit by Check No. 161 dated 8-31-37		450.00	
		249.50	
To account of October Journal		400.00	
		649.50	
Approved by Council and Ordered Paid by House of Delegates.			
Sept. 30—Voucher Check No. 21			79.00
THE TIMES-JOURNAL PUBLISHING CO., Bowling Green			
To 300 Letterheads and 300 Envelopes, Dr. Branham Baughman, Vice-President		4.00	
To 200 Applications for Space—Richmond Meeting		7.00	
To 200 Commercial Exhibits—Richmond Meeting		5.50	
To 750 Programs—Richmond Meeting	77.50		
Less	15.00	62.50	
		79.00	
Approved by Council and Ordered Paid by House of Delegates.			
Sept. 30—Voucher Check No. 22			8.95
D. M. GRIFFITH, M.D., Owensboro			
To expense as Councilor, 2nd District		8.95	
Approved by Council and Ordered Paid by House of Delegates.			
Sept. 30—Voucher Check No. 23			67.00
THE TIMES-JOURNAL PUBLISHING CO., Bowling Green			
To 2,100 October Issue—76 pages		507.00	
Less errors in September Journal	40.00		
Less credit in Check No. 20	400.00	440.00	
		67.00	
Approved by Council and Ordered Paid by House of Delegates.			
Sept. 30—Voucher Check No. 24			76.50
MRS. S. W. FIFE, Richmond			
To Woman's Auxiliary luncheon, 90 plates @ 85c each		76.50	
Approved by Council and Ordered Paid by House of Delegates.			
Sept. 30—Voucher Check No. 25			38.00
EASTERN KENTUCKY STATE TEACHERS COLLEGE, Richmond			
To rooms in Burnam Hall, 9-12-16 inclusive, for the following: Elva Grant, Ruth Flagg, Emily Stoecker, Mayme Sullivan, Ray Wunderlich, and Mrs. Constance Packard		38.00	
Approved by Council and Ordered Paid by House of Delegates.			
Sept. 30—Voucher Check No. 26			64.30
A. T. McCORMACK, M.D., Louisville			
To Richmond meeting expense		19.30	
To incidental expenses		45.00	
		64.30	
Approved by Council and Ordered Paid by House of Delegates.			
Sept. 30—Voucher Check No. 27			44.00
ELVA GRANT, Louisville			
To Richmond meeting expense		19.00	
To Honorarium		25.00	
		44.00	
Approved by Council and Ordered Paid by House of Delegates.			
Sept. 30—Voucher Check No. 28			25.00
RUTH FLAGG, Louisville			
To Honorarium		25.00	
Approved by Council and Ordered Paid by House of Delegates.			

Sept. 30—	Voucher Check No. 29		47.35
	MAYME SULLIVAN, Louisville		
	To Richmond meeting expense	22.35	
	To Honorarium	25.00	
		47.35	
	Approved by Council and Ordered Paid by House of Delegates.		
Sept. 30—	Voucher Check No. 30		31.00
	EMILY STOECKER, Louisville		
	To Richmond meeting expense	6.00	
	To Honorarium	25.00	
		31.00	
	Approved by Council and Ordered Paid by House of Delegates.		
Sept. 30—	Voucher Check No. 31		30.61
	RAY WUNDERLICH, Louisville		
	To Richmond meeting expense	5.61	
	To Honorarium	25.00	
		30.61	
	Approved by Council and Ordered Paid by House of Delegates.		
Sept. 30—	Voucher Check No. 32		21.25
	OTHO HASKINS, Louisville		
	To Richmond meeting expense	6.25	
	To Honorarium	15.00	
		21.25	
	Approved by Council and Ordered Paid by House of Delegates.		
Sept. 30—	Voucher Check No. 33		5.03
	S. C. SMITH, M.D., Ashland		
	To additional expense as Councilor, 9th District	5.03	
	Approved by Council and Ordered Paid by House of Delegates.		
Sept. 30—	Voucher Check No. 34		43.50
	V. A. STILLEY, M.D., Benton		
	To expense as Councilor, 1st District	43.50	
	Approved by Council and Ordered Paid by House of Delegates.		

A. CLAYTON MCCARTY: I move approval.

The motion was seconded.

PRESIDENT REYNOLDS: It is moved and seconded that this report of Dr. McCormack's be adopted.

The motion was put to a vote and carried.

Upon motion duly made, seconded and carried, the meeting adjourned sine die at 8:15 a. m.

A. T. MCCORMACK, Secretary.

ORIGINAL ARTICLES

SULFANILAMIDE, A SURVEY*

MORRIS FLEXNER, M. D.

Louisville.

The leaders in the field of chemotherapy in the past few decades have been for the most part natives of Germany. The hopes of the medical world were high following Ehrlich's epoch-making discoveries of the spirocheticidal properties of his arsenicals. Unfortunately, until recently, all notable chemotherapeutic compounds have been of use only in protozoan or spirochetal diseases. It is true their use in bacterial infection was advocated from time to time, but the reports were not convincing. However, the search continued. Eisenberg, in 1913, found certain azo dyes to possess bactericidal properties in vitro. Horlein first added the sulfonamide group to these dyes about twenty-five years ago; but nothing definite came from the product. Such drugs as Mercurochrome, Metaphen, Gentian Violet, and many others, for intravenous use in septicemia and severe infections, came to life, flickered a few moments, and then disappeared. Since 1932, two German chemists, Mietzsch and Klarer, had been working with various dyes, attempting to produce one with therapeutic properties against bacteria, trying to carry out Ehrlich's fundamental requirements. At last in 1934 they turned over a quantity of their newest product, an insoluble red dye, to Professor Domagk, the director of the experimental laboratory at Elberfeld, to await his verdict. It is doubtful if they had an idea they had produced a substance that would revolutionize the treatment of many of the existing diseases. Professor Domagk's publication on the efficacy of the drug against streptococcic infection in mice, in February 1935, acted as a bombshell and workers in many countries, Germany first, then France, then England, and lastly the United States, began intensive experimental and clinical studies. The result has been the production of a voluminous literature, ever increasing. The object of this paper is to present a survey of this literature and to evaluate the drug as a therapeutic agent, in the light of our present knowledge.

CHEMISTRY

The chemistry of this group of drugs will be dealt with lightly here. There are three different products at present with which we should be familiar. The first is the one used by Domagk: the hydrochloric acid salt of sulphonamido-diamino-azobenzol, the original Prontosil. Because of its poor solubility, it was necessary to change this to an effective product, neutral in reaction, readily soluble. The result of this was Prontosil Solublee. Much of the early work in this field was done with this drug, using it parenterally and intravenously. The latter method has been discontinued because of the serious reactions from it, including several deaths. Shortly afterwards, four workers in Professor Fourneau's laboratory in France, found that not only the azo-containing fragment but also the sulphonamide fraction, namely Para-aminobenzenesulphonamide, was effective against streptococci. It is of interest that the sulphonamide group is only effective against streptococci if in the para position. This product, known as Prontylin, now Sulfanilamide, as well as by many other names, is colorless, crystalline, relatively insoluble (0.8% at 37° C and 0.4% at 15° C) dispensed in powder and tablet form. It is relatively non-toxic and has the advantage over Prontosil Soluble in being suitable for oral, rectal and parenteral modes of administration, while the former is of value only by parenteral injection. Hence, it has become the drug of choice.

ADMINISTRATION

The methods of giving the drug were more or less haphazard until standardized by the work of E. K. Marshall, Jr. and his associates. The result of their efforts was a means for determining the Sulfanilamide content of the blood and urine, as well as spinal fluid, saliva, bile, empyema and ascitic fluid. Their great contribution was the fact that the content in the blood rises about as rapidly when the drug is given by mouth as when given parenterally. The absorption peak is reached in three to four hours and then begins to decline, so that in twenty-four hours it has practically all been excreted, except in cases of renal impairment. In the acutely ill, it is essential to give a large initial dose and then repeat doses at four-hour intervals, in order to maintain the level at 10 mg. per cent if possible. In adults weighing 100 lbs. or more, Long advocates giving an initial dose of 10 to 15 five-grain tablets; from then on 3 five-grain tablets are given every four hours; along with 10 to 20 grains of sodium bicarbonate. The dose should be diminished for smaller children. As improvement occurs, the dose is gradually reduced. If the patient is an adult and unconscious, an initial dose of 700 cc of an 0.8 to 1 per cent solution is given subcutaneously, followed by 500 cc at eight hour intervals during the first 24 hours. For children 50 to 90 lbs., the initial dose should be 300 cc to 500 cc followed by 200 cc to 300 cc at eight hour intervals. Babies should receive 1 gm of Sulfanilamide for 10 pounds of body weight during the first twenty-four hours. As the patient begins to improve, these large doses of the drug should be rapidly reduced, first cutting the doses to 2-3 of the original amount, then to 1-3. <In severe streptococcal disease of a more chronic nature, the drug should be continued for at least two weeks after the case is clinically cured, according to Long. The preparation of this solution is simple: 0.8 to 1 gm of the powdered drug being added to each 100 cc of physiological salt solution just after it has boiled and been removed from the flame. It is cooled to 37° C and administered. The same solution may be used for intraspinal injection in meningitis. In mild infection, two or three 5 gr tablets at four hour intervals are often sufficient to be effective, and as the patient improves, may be reduced to 1 tablet three or four times a day.

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*Read before the Kentucky State Medical Association, Richmond, September 13, 14, 15, 16, 1937.

The use of the drug prophylactically is an interesting speculative field. Whether, for instance, in the midst of epidemics of hemolytic streptococci or meningococci meningitis two tablets every four hours for four doses might be a valuable preventative, remains to be proven. I have seen no reference to its prophylactic use in acute specific urethritis, though I am sure it has been tried. After skull fractures and in dirty, penetrating wounds it should be used to prevent streptococcal and B. Welchii infections. Its value in such conditions as the acute peritonitis following a ruptured appendix, duodenal ulcer, or other acute abdominal condition, remains to be proven.

Mode of Action

Much has been written and thousands of "in vivo" and "in vitro" experiments have been undertaken to explain the action of the drug. Among the results there is a normal amount of variance. Long, in a personal communication, states: "We are still firmly convinced, especially as a result of recent in vivo experiments in mice, that the in vivo mode of action is primarily bacteriostatic (growth inhibiting) and not bactericidal (in the sense of killing the organism). It is our belief that with a decrease in the rate of multiplication in the organism, that a decrease in the production of toxic products occurs. The leucocytes then have a chance to phagocytize the bacteria, and the animal recovers." In other words, the leucocytes in the face of an overwhelming infection give up hope. This condition is unchanged early in the administration of Sulfanilamide, as Long determined by examining the peritoneal exudate of mice, infected with streptococci. However, as the drug holds back the multiplication of the organisms, the leucocytes take heart and a sudden wave of phagocytosis occurs. If the drug is kept up, phagocytosis continues. The control animals survived only a short period, showing no resistance to the organism and no appreciable phagocytosis. On the other hand, Ralph A. Mellon et al (J. A. M. A. May 29, '37) report a large number of mice and guinea pig streptococci experiments with this conclusion among others: "Our experiments show no indication that phagocytosis is a factor in the mechanism of the therapeutic action of these drugs." Colebrook et al in England believe the blood becomes bactericidal to hemolytic streptococci after giving Sulfanilamide. Levaditi and Vaisman (Paris 1935) expressed early their idea was that streptococci escape phagocytosis by means of a capsule thrown about them. Sulfanilamide prevents encapsulation and the organisms are phagocytized. It is a pretty thought, a little hypothetical, and not convincingly proven.

Uses

I will make a guess, with little fear of contradiction, that there are few diseases left for which Sulfanilamide has not been tried. The remarkable thing is the number of conditions that are apparently benefitted by its administration. Truly, it approaches nearer to the panacea that has been sought for centuries than any other medicament discovered to date. But it is young; and those of us who have been in practice two or three decades will recall many procedures that flashed across the therapeutic horizon, to cause a great stir, arouse tremendous enthusiasm, for which great claims were made! And we have seen these comets slowly settle into oblivion or reach the level of their true therapeutic value, where they have remained. I may recount the high hopes following the introduction of the first antitoxin by VonBehring (a little before my time); Koch's tuberculin; Bacterial Vaccines, Non-Specific Therapy, Blood Transfusion, Diathermy, Ultra Violet Light, etc., etc.

I will summarize briefly a few reports to show the value of the drug in a number of diseases. As its use was first advocated for hemolytic streptococcal infections of the Beta type, I will begin with them. Do not let the prefix Beta before hemolytic streptococci disturb you. It refers to the common garden variety of hemolytic streptococci.

Puerperal Sepsis

There are few diseases that needed some type of therapeutic agent to reduce the tremendous mortality as badly as this one. Hence the drug was used early and it was not long before the results began to be assembled. Colebrook and Kenny were among the first in England to use Prontosil and

Prontylin experimentally and therapeutically. In their report (Lancet Dec. 5, 1936) from Queen Charlotte's Hospital, they note that the mortality in 495 cases of puerperal sepsis infected by Hemolytic Streptococci for the years 1931 to 1935, was 22.75 per cent. In the year 1936, there were 64 cases treated with Prontosil and Prontylin, with a death rate of 4.7 per cent. Eight of this number had positive blood cultures and 11 peritonitis.

Foulis and Barr (Brit. Med. Feb. 1937) from Glasgow, using Sulfanilamide, reported 70 proven septic cases treated from November 1, 1936 to January 31, 1937. There was one death, giving a mortality of 1.4 per cent, as contrasted with a death rate of 13.5 per cent in 1,988 cases treated from 1931 to 1936. a low rate in itself. Of the 70 cases, only 22 were ill enough to receive the drug and 11 of them had positive blood cultures.

Hemolytic Streptococci Meningitis

This is a disease with a uniformly high mortality. Before the introduction of Sulfanilamide, there were only 110 recovered cases reported, according to Trachsler; Schwentker (Bull. J. H. H. April 1937) states that in the last 15 years there were 37 cases at the Johns Hopkins Hospital with a mortality of 100 per cent. He reports 4 cases with recovery in 3—a mortality of 25 per cent. He advocates a combination of the oral as well as the intraspinal methods of administration of the drug. Along with this, he combined surgery and transfusions, but feels in the very ill it is better to control the disease with the drug before beginning too radical surgical procedures.

Many single cases of recovered Hemolytic Streptococcic Meningitis have been reported, most of them secondary to middle ear and mastoid infections. James G. Arnold, Jr., reports fully a case secondary to an infected mastoid. (Annals Int. Med. Feb. 1937). The patient recovered after three and one half weeks of oral and intraspinous treatment. He advocates continuing the intraspinous treatment until three negative cultures are obtained, and the oral administration for 10 days following the last positive spinal culture. Weinberg, Mellon and Shinn (J. A. M. A. June 1937) report two cured cases of hemolytic streptococcic meningitis treated with Sulfanilamide and Prontosil. It is of extreme interest that these patients received no intraspinous treatments, and very few lumbar punctures. If unable to swallow the tablets, the drug was given by rectum. Trachsler et al (Jour. of Pediatrics Aug. 1937) present a very excellent review of this subject, reporting seven cases treated by Sulfanilamide and Prontosil, with four recovering. They gave none of the drug intraspinally, but used antistreptococcic serum, transfusion, etc., along with it.

Erysipelas

Here, another of the hemolytic streptococcic diseases has responded to treatment in a most remarkable manner. In the cases treated with Prontosil Soluble, the average case showed normal pulse and temperature after four days. The redness began to fade, and the edema to subside, soon after the injection. With Sulfanilamide in adequate dosage, most of the cases showed marked febrile response in 48 hours, the patients no longer felt toxic; fading of the lesions occurred. The earlier the drug is used, the better and quicker the result. This is important in handling erysipelas of the very young and the very old, in which groups the greatest mortality occurs. In the very ill, I still feel that the specific antiserum and ultra violet light should be used as well. Snodgrass and Anderson (Lancet July 1937) reported a group of 312 cases of erysipelas treated with (a) Prontosil (b) Ultra Violet Light (c) Ultra Violet Light and Prontosil (d) Scarlet Fever Antitoxin. In their experience, the Prontosil group did the best, the lesions clearing quicker, fever leaving earlier, the toxemia disappearing sooner than in the other groups.

Scarlet Fever

The few cases in the literature seem to warrant the trial of the drug in this disease Long, in his original article, reported three cases that responded well. If, for no other reason than to keep down secondary infections, such as otitis and adenitis, I feel from our present knowlege, it should be used.

Other Hemolytic Streptococcic Infections

In this group must be placed a heterogeneous mass, having the same etiology—the hemolytic streptococcus. Sinusitis, septic sore throat, tonsillitis and quinsy, Ludwig's angina, cervical adenitis, cellulitis, bronchitis and broncho pneumonia, empyema, pericarditis and endocarditis, peritonitis, osteomyelitis, dermatitis occasionally, etc., etc. Brown of England (Brit. Med. Jour. June 1937) has recently reported 2 cases of streptococcal empyema in which Prontosil Soluble was injected into the pleural cavity, the tablets being given by mouth at the same time. In a very short while the pleura fluid became sterile. A solution of Sulfanilamide injected into the pleural cavity would be preferable I feel, and may be the answer to one of the great medical and surgical bugbears, one that cost hundreds of lives in the World War, hemolytic streptococcic empyema. There is a possibility that oral administration alone might accomplish the same result.

Meningococcic Meningitis

The supposed specifity of Sulfanilamide for hemolytic streptococci seems to pale somewhat when the action of the drug in meningococcus septicemia and meningitis is reviewed. Proom (Lancet Jan. 1937) reported finding evidence of the drug in the spinal fluid when given by mouth. Experimentally, he found in mice that Sulfanilamide prevents infection against 1,000,000 minimal infecting doses of meningococci.

Schwentker et al (J. A. M. A. April 1937) reported 10 cases treated only by Sulfanilamide with recovery in 9 cases. The one case that died, succumbed to pneumonia, having had a sterile spinal fluid for 3 days. No antitoxin or specific antiserum was used in any of the cases. After the diagnosis was made a sterile Sulfanilamide solution was injected intraspinally in amounts 5 to 10 cc less than the fluid withdrawn. A large dose was given subcutaneously, 100 cc for each 40 lbs. of weight. These procedures were repeated every 12 hours the first 2 days, and then once a day until definite improvement occurred, the subcutaneous injection being continued a few days after the intraspinal injection had stopped. According to Schwentker, the cell count in the spinal fluid came down suddenly in many cases; in others, it stayed elevated for a few days and then fell suddenly. Some fluids became sterile at the end of 24 hours, all at the end of 72 hours; results that could not be anticipated with serum. Sulfanilamide solution intraspinally has the tremendous advantage over serum in not producing a pleiocytosis. I see no reason for giving all Sulfanilamide by subcutaneous injections, providing the patient is well enough to swallow the tablets by mouth. In the semi-conscious there is no alternative except rectal administration—but a prolonged hypodermoclysis in a semi-conscious individual is not always simple. The question as to whether antitoxin or serum should be combined with Sulfanilamide has not been settled. I am inclined to agree with Dr. Russell L. Cecil, who in a personal communication, wrote me that he thought he "would want to take the serum too." Antitoxin intravenously, and Sulfanilamide by mouth or subcutaneously and intraspinally, seem to me to be an ideal combination. Rosenthal (U. S. P. H. May 1937) arrived at a similar conclusion working with mice. Statistics may prove it will not be necessary to give any of the drug intraspinally.

Pneumococcic Pneumonia

There is great variance of opinion as to the value of Sulfanilamide in the various types of pneumonia, both experimental and clinical. Rosenthal, working with mice, found the drug of value in Types 1, 2 and 3. Long, repeating the experiments, found the drug held the infection in check a while, but therapeutically had little value. Heintzelman, Hadley & Mellon (Am. Journ. Med. Sci. June 1937) reported nine cases of Type 3 pneumonia treated with Sulfanilamide; with seven cases recovering. In ten control cases followed at the same period, two recovered, eight died. They felt sufficiently encouraged by this small series to advocate its use until a large number of cases have been observed. Bullowa (Cal. & Western Med. June 1937) thinks the drug of value in Type 3 pneumonia, reporting 3 cases recovered who had positive blood cultures, using only Sulfanilamide. Cecil in a personal communication says he has found it of no value in pneumonia, adds that some men at the Presbyterian Hospital in New York believe it of some value in Type 3. Reports in the literature are few. More carefully controlled cases should be reported. Here again the ideal combination may be serum and Sulfanilamide, in the types for which there are specific sera.

Genito-Urinary Diseases

After Dees and Colston's well heralded and well "Timed" report (J. A. M. A. May 1937) on the use of the drug in gonococcic infections, the profession, as well as the laity, felt that another of society's scourges had succumbed to an easy solution. While the final chapter has not been written on the subject, further studies point to the fact that their preliminary report was a little too optimistic. In the report of 19 analyzed cases of the disease in various stages, they used no other treatment, giving the following amounts per day, divided into 4 doses: 4.8 gms. for 2 days, 3.6 gms. for 3 days, 2.4 gms. 4 to 8 days.

In their acute cases the burning and frequency cleared up often in 2 to 6 days; slower in a few cases; in 3 or 4 cases, there was no response. None of the anterior infections went to the posterior urethra; or from the posterior urethra to the prostate or epididymis. They concluded with the idea that further study of the problem was essential.

Russell Herrold (Urolog. & Cut. Review July 1937) reports his experiences with the drug. In studying 30 cases of gonococcic infections, he feels the results are more promising than with any therapeutic measure advocated so far.

"It would seem safe to predict that more than two thirds of chronic infections can be cured in 2 to 4 weeks on moderate dosage (40 grs. a day) and that in these infections, the best results would seem more favorable in those patients who have previously had gonorrhea. It would seem doubtful if more than 1-3 of well developed, acute infections will respond with cure even on maximum dosage in a period of 1 to 3 weeks when occurring in patients who have never had gonorrhea previously.''

This view is concurred in by D. K. Rose from Caulk's Clinic in St. Louis, who wrote me that he felt the drug ''made a difference in the acute cases but did not clear them up.'' He thought it of definite value in the old chronic gonorrheal conditions, either urethritis, prostatitis or seminal vesiculitis; as well as in the fresh infection in a previously healed case.

As an urinary antiseptic, in the treatment of infections of the kidney and bladder, Sulfanilamide is very effective. Herrold states it of particular value in colon infections and mixed colon infections, adding: ''It is noteworthy that many of the infections of the bladder and upper urinary tract, responding successfully to Sulfanilamide, previously had failed to be cured by the administration of mandelic acid.''

From the Mayo Clinic, Helmholz and Osterberg, as well as Cook and Buchtel, have reported on its value as an urinary antiseptic. They noted that after the giving of Sulfanilamide by mouth, in smaller doses than ordinarily used, a strongly bactericidal urine is developed. It has been efficient in controlling all the common urinary infections, with the exception of streptococcus fecalis. It has been successful in several cases where mandelic acid failed. They found the same concentration of drug more bactericidal in alkaline than acid urine. Buchtel feels there is some evidence the drug is excreted in the prostatic secretion and is carrying on investigations along these lines.

B. Welchii Infection

Gas gangrene is a disease with a mortality of 50 per cent, regardless of surgery and antitoxin used prophylactically and therapeutically. Hence, Bohlman's report of 3 clinical cases (with bacterial confirmation in only one) using Sulfanilamide, must again make us shake our heads. He suggests conservative surgery along with the drug. I also would use the antitoxin. The drug must have some effect on the B. Welchii organism itself—as well as the symbiotic hemolytic streptococci. He suggests the prophylactic use in crushing wounds. Auto accidents alone should consume a few million tablets each year.

Heterogeneous Group

In this belongs my case of this, and your case of that, which recovered promptly after Sulfanilamide. Cases of Undulant Fever, Hodgkins Disease, Rocky Mountain Fever, etc., etc., have crept into the literature, a few of them slightly immature. Most of us here have a case or two to add to this group; but at a time like this, we are so apt to read results into our cases in favor of the drug, that it is safer to wait for 2 or 3 more similar cases before succumbing to ''Morbus Scribendi.''

Complications Following Administration

In spite of its very low toxicity, reaction occurs.

(A) (Mild). Some patients are apparently sensitive to the drug and early show nausea, dizziness, tinnitus or headache. These results pass off quickly, but occasionally it may be necessary to discontinue the drug for a while. Large doses (75 grains) a day for a number of days may produce fever, which disappears in 24 hours after the drug is stopped. Long notes that at times it is difficult, in severe infections, to tell the fever of the disease from fever of the drug.

Hageman & Blake (J. A. M. A. Aug. 1937) report a series of 21 cases showing a specific febrile reaction, associated with a morbilliform rash in nine cases, coming on seven to ten days after giving Sulfanilamide. The rash was usually a maculopapular erythema, at times hemorrhagic, at times urticarial. The rash involved the face, trunk, and extremities, most marked on buttocks, knees and back. The fever lasted two to four days, reaching as high as 106°. Hepatitis and jaundice were present in one case. Schwentker and Gelman (J. H. H. Bull. Aug. 1937) state that 6 per cent of their 180 cases developed a rash. It appeared from the third to the seventeenth day of treatment, always accompanied by fever.

Jaundice has been reported in several cases. Methemoglobinemia with cyanosis may occur after as little as 15 grains of Sulfanilamide, Bensley & Ross report from Canada, (C. M. A. J. July 1937). It disappears within 24 to 48 hours after the drug has been stopped—in contrast to the persistent Sulphemoglobinemia. If severe, an oxygen tent may be used. Spectroscopic examinations of the blood help make the diagnosis. Southworth showed that Sulfanilamide caused a consistent though variable drop in CO_2 combining power of the blood—at times going on to clinical acidosis. It is for this reason that bicarbonate of soda must be given with the drug. E. K. Marshall, Jr. and Walzl (J. H. H. Bull. Aug. 1937) seem to have cleared up the matter of cyanosis. They concluded, after investigation, that the cyanosis and dark color of the blood was due to the presence of a black oxidation product of the drug which stains the red blood cells. They studied the oxygen capacity and the total iron pigment and felt that the cyanosis was not due to non-functional iron pigment. They questioned the statement that methemoglobin was the principal cause of the cyanosis.

B. (SEVERE) Prominent among the severer reactions following the use of the drug is Sulphemoglobinemia. A fatal case is reported by Frost from England (Lancet, Feb. 1937) in a girl of twelve. Discomb (Lancet, March 1937) reported cases of Sulphemoglobinemia where magnesium sulphate had been given at the same time as the drug. In one patient who had dressings of sodium sulphate, with none by mouth, the condition developed. The author feels that carefully watching for cyanosis may not ward off Sulphemoglobinemia but advocates frequent hemoglobin determinations as well as spectroscopic examinations of the blood. No saline purgation with Sulfanilamide is a safe rule.

Paton & Eaton (Lancet, May 1937) describe four cases of Sulphemoglobinemia critically ill, induced by the use of magnesium sulphate, along with Sulfanilamide. They used saline and glucose intravenously, transfusions in the very ill, oxygen being of no value here. They were able to detect the condition in the blood 6 weeks after the drug had been stopped, by means of the spectroscope.

Long, in a letter of July 19, 1937, states that they have had 10 cases of acute hemolytic anemia up to that time, all occurring between the second and fifth day of therapy. Three of these cases were reported by Harvey & Janeway (J. A. M. A. July 13, 1937). They recovered when the drug was stopped and citrated blood transfusions given. Also, he reports 2 cases of agranulocytosis with angina, which occurred at the end of the third week of treatment. All recovered, and when retested later, showed no fall in either red or white cells; so he felt it was not a true idiosyncrasy. Young (Lancet July 1937) records a fatal case of agranulocytosis following Sulfanilamide. He stresses the point that the drug contains a benzene ring with an attached amine group, the same condition that exists in Amidopyrene, Phenacetin and other drugs known to cause the disease.

Borst from Amsterdam, reports in the Lancet (June 1937), one case of agranulocytosis, one of thrombocytopenic purpura, and two paresthesias following the use of Prontonsil Flavum, a close relative.

CONCLUSION

Sulfanilamide is a marvelous but dangerous drug. The fact that it can, by itself, cause fatalities, precludes its being dispensed with the cheery nonchalance that one distributes aspirin or soda mint tablets. It should only be used by careful observers capable of watching their cases. At times, it is lifesaving to be in reach of a laboratory that can do a complete blood count.

The drug in no sense fulfills Ehrlich's fundamental requirements for an ideal chemotherapeutic agent; firstly, because of the peculiar nature of its beneficial effects, and secondly, because at times it is more toxic for the host than the parasite. This fact need not impede its usefulness, for it is much too early to tell where its conquests will end. The hope is that before long there will be found lurking in the bottom of some test tube, a near relative not wearing a benzene ring, that will be as much an improvement over this agent as it has been over any therapeutic product discovered in our time.

DISCUSSION

A. Clayton McCarty, Louisville: This very important subject has been covered in such a splendid way and with such a fair appraisal by Dr. Flexner that there is not much to add except to emphasize some of the points that are important. Certainly sulfanilamide is no flash in the pan. Its effectiveness in the beta hemolytic streptococcus, hemolytic streptococcic meningitis, meningococcic meningitis, Welch bacilli possibly gonococci, and a few others, makes it an absolutely dependable drug. One of the best parts about it, too, as Dr. Flexner says, is that it opens up new paths of chemotherapy, the end of which none of us can foresee, but we believe it will be great.

Sulfanilamide is good if it is used in adequate doses. Most of us who have used it feel that severe infections demand 60 to 80 grains a day for three or four days. The smaller doses, also as Dr. Flexner has pointed out, will give you some of your toxic effects, and it is not often that the smaller doses will give adequate effect.

Care is necessary, of course, in watching for the gastro-intestinal symptoms, but if sodium bicarbonate is administered with sulfanilamide and the saline purge is omitted, you are not so likely to have trouble. The effect upon the white cells and upon the red cells is not to be forgotten, probably because of the sulphone benzene components. If the kidneys are not damaged, elimination will be good and you need not fear from that standpoint.

The cheapness, the non-toxicity of sulfanilamide, the fact that it is readily soluble and deeply penetrating, make it unnecessary to use prontosil, which is staining, expensive and more toxic either orally subcutaneously or intraspinously. As was said over at Frankfort, in the Fifth District meeting, when this same subject was being discussed, there may be a tendency to underestimate or overestimate the value of this drug at this time. You recall that Wilkins at the Pole, when he was taken after by a bear, found no way of escape except a bare tree, with a limb about seventy-five feet in the air. When he got about fifty yards away he said he saw no escape but to make a leap for that limb. Someone asked him if he made it. He said, "I missed her going up but I sure caught her coming down."

The true value of Sulfanilamide may be missed, or over-accentuated going up, but I think a fair level will be found coming down, and the drug prove to be one of the most valuable known.

Irvin Abell, Jr., Louisville: I wish to make it perfectly clear that my remarks concerning sulfanilamide do not in any way concern the indications for its use, the dosage to be employed, or results to be expected. I am merely recounting to you our experiences with this drug and the impressions which we have derived from those experiences. We have not treated any cases of meningococcic infections, gonococcic infections, streptococcic infections, or gas gangrene bacillus infections, and we consequently have not felt it necessary to utilize the massive doses advocated in the literature.

We have utilized it principally in the treatment of post-operative complications; phlebitis, localized peritonitis, pelvic abscesses, wound infections, cellulitis of the abdominal wall, and urinary tract infections.

Our experiences have led us to the following impressions: First, that in giving this drug in doses of five grains three to four times a day by mouth, one has no need to fear the development of toxic symptoms. We have seen none. Secondly, that so far we have failed to recognize any contra-indications to the use of this drug in this quantity. Third, that if there is to be any beneficial result obtained from the use of the drug, it will become apparent within forty-eight to seventy-two hours. If we have no indication of a beneficial result from the use of this drug within that period of time we discontinue it. We never use the drug over ten days.

Our final impression has been, although we do not hold this too strongly, that sufficient benefit has been derived from the use of this drug in about fifty post-opreative cases in the complications which I have mentioned to you to justify its use.

E. R. Palmer, Louisville: I don't speak from any personal experience with this drug. I have had under observation four patients who have been treated with it for a gonococcal infection, and all I would say as regards that is that I was not very favorably impressed with the results.

What I wish to say and impress upon you especially is that with a drug of this character I think it is extremely unfortunate that through the wide publicity that has been given to it by the lay press, it is handed out now like Bayer's aspirin over the counter at any drug store. It is an extremely dangerous drug to be used in the way it is given. I have one patient that I know happened to be acquainted with an orderly at the Louisville City Hospital, and he went to him to see what was good for gonorrhea. You know they go to everybody, the blacksmith or anybody else, for gonorrhea.

The orderly said, "We've got the very newest thing here," and he gave him a box of pills. His result was not very favorable. I want to stress particularly the care that should be used in dispensing this drug. As Dr. Flexner and Dr. McCarty both said, it ought to be under the observation and direction of an experienced physician.

Dr. Flexner spoke of the report of Hageman and Blake that appeared in the issue of the 28th day of August of the Journal of the American Medical Association. Those two doctors, connected with Yale University, had under observation at the clinic at the New Haven Hospital, 134 cases, and in these cases they had twenty-one very decided reactions. That is a percentage of something like 15 per cent. These reactions were so serious that it strikes me it would be a very foolhardy thing to undertake to let anybody but a physician handle this drug for a disease that we know is quite troublesome and very hard to handle, but I don't think we are justified in using such a dangerous drug indiscriminately. The reactions that they get seem to be mostly a fairly high fever, sometimes going as high as 106.

W. B. Atkinson, Campbellsville: I have had a very slight experience with this drug. I have been very much disappointed in its effects in gonorrhea, particularly in the female, but the main thing I want to stress is that some time ago I had personally a streptococcic sore throat myself—the first time I ever took any medicine in my life, and I very religiously got scared and took two tablets every two hours for about three days and nights, and I want to warn you when you do that don't try to drive a car, because you see one twenty yards down the road and you think it is right at you, you see one-half a mile down and you think it is behind you. It is almost as satisfactory for a cheap drunk as bootleg bathtub gin. (Laughter).

Morris Flexner, (in closing): There is only one point I wish to make, and that is this: In post-operative complications, in all fairness to the drug while it is so young, trying to establish a reputation, I think that as much bacteriology as possible should accompany its use. If we do that, then we will know definitely in what particular types of infection it is most useful. If we just use it for fever, then we won't know exactly whether the drug is helping us or not, because, after all, so many people get well from fever in a few days of one cause of another. One of my friends wrote me that he had a case of Rocky Mountain fever that he used it in and the thing promptly got better, but he said, "But you know Rocky Mountain fever does that, so how are you going to tell?" So let us confine its use to conditions where it is really indicated.

BOOK REVIEWS

INJECTION TREATMENT OF HERNIA:—By Carl O. Rice, M. D., F. A. C. S.; Instructor in Surgery, University of Minnesota School of Medicine; Surgeon in Charge of the Surgical Out-Patient Department of the Minneapolis General Hospital; Adjunct to the Surgical Staff of the Minneapolis General Hospital; Surgeon to Asbury Hospital, Deaconess Hospital and Swedish Hospital, Minneapolis; Member of the Minneapolis Surgical Society, American Medical Association, Minnesota State Medical Society, Minnesota Pathological Society.

With the Assistance and Cooperation of Hamlin Mattson, M. D. 83 illustrations. F. A. Davis Company, Philadelphia, Publishers.

In preparing the monograph the author has endeavored to teach the principles of a procedure which through some oversight on the part of the medical profession, has been laid aside for approximately fifty years in favor of the more spectacular procedure of hernioplasty and herniology. Much of the material is from hernia clinic at the Minneapolis General Hospital which was organized for the purpose of trying an ambulant method of treating hernia.

In this monograph the medical profession will learn and appreciate the value of this method which has been employed with so much success by the author.

AN INTRODUCTION TO DERMATOLOGY.—By Richard L. Sutton, M. D. Sc.D., LL.D., F. R. S. (Edin) Professor of Dermatology, University of Kansas, School of Medicine and Richard L. Sutton, Jr., A. M., M. D., L. R. C. P. (Edin), Instructor in Dermatology, University of Kansas School of Medicine. Third Edition. C. V. Mosby Company Publishers, St. Louis. Price $3.00.

As dermatology has made such rapid progress in recent years a new book on this subject is always a welcome addition to any physician's medical library. And it is always a pleasure to see a son follow in his noble sire's foot steps as much of this new edition has been prepared by the Junior Sutton.

Many new diseases are included for the first time and each subject is carefully illustrated. The section on syphilis has been enlarged, the important findings of the cooperative clinical group have been discussed and modern methods of treatment stressed with particular reference to the value of bismuth.

OBSTETRIC AND GYNECOLOGIC NURSING:—By Frederick H. Falls, M. S., M. D., F. A. C. S., Professor of Obstetrics and Gynecology, University of Illinois College of Medicine, etc., and Jane R. McLaughlin, B. A., R. N., Supervisor of Department of Obstetrics and Gynecology, Research and Educational Hospital, University of Illinois College of Medicine. The C. V. Mosby Company, St. Louis, Mo., Publishers. Price $3.00.

This is the first text to combine obstetric and gynecologic nursing. Most medical schools are now teaching these subjects under one department. Falls and McLaughlin follows this modern trend in teaching.

This combination affords students the opportunity of getting the teaching of the specialist in obstetrics and gynecology, as well as that of the specialist nurse in these subjects.

Illustrations were made for this book by an experienced medical artist to tell by visual method the lessons covered in the text.

PERSONAL HYGIENE.—By C. E. Turner, M. A., Dr. P. H. Professor of Biology and Public Health in the Massachusetts Institute of Technology: Formerly Associate Professor of Hygiene in the Tufts College Medical and Dental Schools; Sometime Member of the Administrative Board in the School of Public Health of Harvard University and the Massachusetts Institute of Technology; Fellow American Public Health Association; Chairman, Health Section, World Federation of Education Associations; Major, Sanitary Corps, U. S. A. (Reserve). With eighty-four Text Illustrations and Three Color Plates The C. V. Mosby Company, St. Louis, Publishers. Price $2.25.

Teachers of hygiene who are offering separate courses on Personal Health have created the demand for this book. This demand is based on Prof. Turner's authority as a leader in the field of hygiene and on the remarkable success of his "Personal and Community Health." Every phase which affects the health of the individual is explained in a simple and understandable manner.

HEALTH EDUCATION OF THE PUBLIC. A PRACTICAL MANUAL OF TECHNIC:—By W. W. Bauer, B. S., M. D., Director, Bureau of Health and Public Instruction, American Medical Association; Associate Editor of Hygeia, The Health Magazine; and Thomas G. Hull, Ph.D., Director, Scientific Exhibit, American Medical Association; Professor of Bacteriology, University of Illinois, College of Medicine. 227 pages with 39 illustrations. Philadelphia and London: W. B. Saunders Company, 1937. Cloth $2.50 net.

These two well known physicians connected with the Medical Association have combined in writing authoritatively on educating the public in health matters.

It is amply illustrated and can be used as a valuable guide for medicial societies and to physicians who may be called upon to address various civic organizations.

THE LABORATORY DIAGNOSIS OF SYPHILIS: THE THEORY, TECHNIC, AND CLINICAL INTERPRETATION OF THE WASSERMANN AND FLOCCULATION TESTS WITH SERUM AND SPINAL FLUID:—By Harry Eagle, M. D., Past Assistant Surgeon, United States Public Health Service, Washington, D. C.; Lecturer in Medicine, Johns Hopkins University Medical School, Baltimore, Md.; Formerly Assistant Professor of Bacteriology, University of Pennsylvania Medical School. With Foreword by J. Earle Moore, M. D., Associate in Medicine, Johns Hopkins University; Physician in Charge, Syphilis Division of the Medical Clinic, and Assistant-Visiting Physician, Johns Hopkins Hospital, Baltimore, Maryland. The C. V. Mosby Company, St. Louis, Publishers. Price $5.00.

The importance of the laboratory tests for syphilis has greatly increased during the past year, and while no laboratory procedure should ever supersede a careful physical examination, it is essential for every physician to be familiar with the standard types of laboratory tests for syphilis and to be able to interpret the laboratory findings.

Each test is carefully described and evaluated in detail and each procedure is given so that it can readily be followed by the usual laboratory technician.

This volume is a valuable aid to hospitals, all kinds of laboratories and the general practioners.

PSYCHIATRIC NURSING:—By William S. Saddler, M. D., in collaboration with Lena K. Sadler, M. D., and Anna B. Kellogg, R. N. The C. V. Mosby Publishing Co., St. Louis, Publishers, Price $2.75.

Sadler's Psychiatric Nursing comes from a large Psychiatric clinic in Chicago. This clinic, with it many human and physical facilities, has for years served the author and his two collaborators as a laboratory for the profound study of the problems of Psychiatry. New thoughts, theories, and practices are experimented upon here so as to test their real values. Those that prove worth while and help in the progress of Psychiatry are separated from those that prove lacking. New methods of treatment and nursing procedures, as they are propounded, are also tested for beneficial qualities.

It is this constant research with new material, improving on the old material, writing, and teaching that gives the author the background necessary to properly teach student nurses the facts of Psychiatry. His familiarity with all the many phases of this subject—diseases, treatment (institutional and noninstitutional), nursing, preventive, community aspects, etc.—enables him to give the material in this text the balance needed by schools of nursing.

EMOTIONAL ADJUSTMENT IN MARRIAGE:—By Lemon Clark, M. D., Instructor in Social Science and Economics, Cornell, 1923-1927. Associate Professor of Economics, Colgate University 1927-1928. At present on the staff of the University of Illinois School of Medicine as Assistant in Obstetrics and Gynecology. The C. V. Mosby Company, St. Louis, Publishers. Price $3.00.

The aim of this book is to increase the sum total of human happiness by seeking to contribute further truths upon which a satisfactory adjustment of the sex side of marriage may be based. The author considers the sexual side of life in its relation to the individual, the family, and society. He gives the parent-group the necessary information as a basis for a rational orientation of their own sex lives and deals with the problem of sex education for children.

This book deals with the problems that come to the average normal individual and aims to help such a one to reach the greatest possible happiness and contentment.

To the physician interested in the resolution of sexual problems it will serve as a valuable aid. It answers most of the questions arising in the minds of those who consult him.

NEWS ITEMS

Application blanks are now available for space in the Scientific Exhibit at the San Francisco Session of the American Medical Association, June 13-17, 1938. The Committee on Scientific Exhibit requires that all applicants fill out the regular forms.

Application blanks may be obtained from the Director, Scientific Exhibit, American Medical Association, 535 North Dearborn Street, Chicago, Illinois.

Spencer Lens Company announces the change of location of its Washington office to 1419 H Street, N. W., Washington, D. C. A more adequate display of Spencer instruments and expanded facilities for service to our customers have been provided.

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NEXT MEETING LOUISVILLE

COUNTY SOCIETIES

Franklin: The Franklin County Medical Society held its regular meeting Thursday, October 7th, 1937, at 6:30 p. m. The Society was the guest of Dr. William Snyder and Dr. Grace Snyder at their home "Lenark Linds," Wapping Street, Frankfort.

Physicians present, Drs. Minish, Cull, Darnell, Coblin, Youman, Roemele, South, Patterson, Baughman, Travis, Coleman, Martin, Lawson, Jackson, Blackburn, Frymire, Barton, William Snyder and Grace Snyder.

Drs. Cull, Lawson and Dare were voted into membership of the Society.

Dr. Grace Snyder explained how the society as a unit, could become a member of the Credit Bureau at a minimum fee of $30 per month and with each member being entitled to all the privileges of the Bureau. The matter was discussed and referred to a later meeting for action. A motion was passed that Mr. George Roberts be invited to the next regular meeting to answer questions of this subject.

The Venereal Disease Clinic was discussed pro and con.

A course dinner was served the society, after which a vote of thanks was given the hosts, the Doctors Snyders; the meeting then adjourned.

The next regular meeting will be at the King's Daughters Hospital and the Society will then be entertained at dinner by the hospital.

GRACE SNYDER, Secretary.

Harrison: The Harrison County Medical Society held its regular monthly meeting at the Harrison Memorial Hospital October 4, 1937.

Members and visitors present were: Drs. McDowell, Rankin Blount, H. C. Blount, McNeely, Moody, Wyles, W. B. Moore, Smiser, Wells, Martin, Rees, Brumback, Swinford and Midden.

Drs. Daugherty, Orr, Hopkins, Hyden, Rickman, Paris; Dr. John W. Scott and daughter; VanMeter and Smith, Lexington.

The meeting was presided over by the president, Dr. Josephus Martin.

The minutes of the September meeting were approved as read.

Dr. Julian Benjamin, Cincinnati, the guest speaker, gave a very instructive and interesting lecture on functional diseases of the heart. His talk was thoroughly enjoyed by all present. The subject was discussed by Drs. Scott, Daugherty, Orr and Rickman.

Dr. J. M. Rees, local member, registered strenuous objections to the president because he was not permitted to talk.

The meeting was adjourned until the next meeting date, November 1, when Dr. M. McDowell, the essayist for the evening, will read a paper on Emergency Surgery of the Stomach and Duodenum.

W. B. MOORE, Secretary.

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1937

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Compiled by L. H. South, M.D.

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KENTUCKY MEDICAL JOURNAL—PART II

WOMAN'S AUXILIARY SECTION

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Photograph by H. Hesse, Louisville.

THE PRESIDENT
Mrs. Ernest Arthur Barnes, Albany, Kentucky

KENTUCKY MEDICAL JOURNAL, PART II
WOMAN'S AUXILIARY SECTION
519 Tenth Street Bowling Green, Ky.

Vol. VI. January, 1937 No. 1

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PRESIDENT'S MESSAGE

Mrs. Ernest A. Barnes, Albany

A Happy New Year to you, Auxiliary Members! May your New Year be very bright, bringing 365 days that you will fill with accomplishment!

Let us begin our New Year by taking greater interest in our Auxiliary work.

Some Counties have, already, responded well in the new project—study and lectures on Venereal Diseases. Of this, I am very proud and most anxious that we develop activity throughout the State.

Our Annual Doctor's Day will be May 14th. I hope every Auxiliary will observe this day by honoring all of our own physicians with special consideration, this year, to the late Dr. Joseph Nathaniel McCormack. May 14th, 1879, was the date on which he attended his first meeting of the Kentucky State Medical Association. This meeting was held in Danville. There, he listened to the great teacher from Philadelphia, Dr. Samuel D. Gross, as he delivered the Dedicatory Address at the unveiling of the monument erected in memory of Dr. Ephraim McDowell by the Kentucky State Medical Association. This whole remarkable address made a deep impression on the young Doctor and the last few sentences, addressed directly by Dr Gross to the young members of the Kentucky Medical Profession, inspired Dr. McCormack to change his whole life's course. And, he became the Apostle of Public Health.

The biographical sketch of Dr. J. N. McCormack, written for the Auxiliary by his wife, Mrs. Corinne Crenshaw McCormack, one of our Charter Members, will soon be in your hands for study.

National Examination Day of the Early Diagnosis Campaign Against Tuberculosis will, again, be held in April. Auxiliary members may do a fine piece of work by publicizing and promoting this Day.

So many Members have asked me this question: "What is there for us to do in the Medical Auxiliary? Our other clubs and organizations are doing what your program suggests. There seems to be so much overlapping." The best way for me to answer this, perhaps, is to give my own personal experience. At one time, I, too, asked the same question, felt the same way. But, the more I thought about it, the more inquiry I made. And, I soon found that there was more work needed in every one of these fields than any one organization could ever do. I find that the best way is to combine Auxiliary duties with those of other organizations, bringing the health activities of P. T. A., Clubs, and Church in line with the aims of the medical profession. Many of our projects are real missions of mercy. My motto is: "Do the missionary work needed at home, first." Then, we will be helping to make our section of the country a better, cleaner, safer place in which to live.

Thank you, for the splendid help you have already given the Auxiliary. You find me confidently asking for more, always assured that by working together we may make this a bigger, nobler, more inspiring Auxiliary year.

I am at your service. Command me, please, and I will try to measure-up to your expectations.

THE CARDINAL SINGS

Good Cheer! Good Cheer! Good Times Are Here!
No doubt, no fear can make us veer
From our straight course.
—Then—
On Cardinal wing, as joybells ring,
We'll gaily sing and onward swing
With vim and force.
—For—
Business Friend and Donor send
Our debts to fend, the Budget mend.
—Ay—
Cornelia's source
Of treasure trove may now be wove
And find safe cove, since Is'belle strove.
—So—
Let's sing 'til hoarse—
Good Cheer! Good Cheer!
Good Times Are Here!

EXTRACTS FROM DEDICATORY ADDRESS, McDOWELL MEMORIAL AT DANVILLE

May 14, 1879

Samuel D. Gross, M. D., L. L. D., D. C. L. Oxon.

"Young men of the Kentucky State Medical Society, listen to the voice of one who has grown old in his profession, and who will probably never address you again, as he utters a parting word of advice.

"The great question of the day is, not this operation or that! not ovariotomy, or lithotomy, or a hip-joint amputation, which have reflected so much glory on Kentucky medicine, but is Preventive Medicine, the hygiene of our persons, our dwellings, our streets; in a word, our surroundings, whatever and wherever they may be, whether in city, town, hamlet or country: and the establishment of efficient town and State Boards of Health, through whose agency we shall be the better able to prevent the origin and fatal effects of what are known as the zymotic diseases, which carry so much woe and sorrow into our families and which often sweep, like a hurricane, over the earth, destroying millions of human lives in an incredibly short time.

"The day has arrived when the people must be roused to a deeper and more earnest sense of the people's welfare, and when suitable measures must be adopted for their protection as well as for the better development of their physical, moral and intellectual powers.

"This is the great problem of the day, the question which you, as representatives of the rising generation of physicians should urge, in season, and out of season, on the attention of your fellow-citizens; the question which, above all and beyond all others, should engage your most serious thought and elicit your most earnest cooperation. When this great, this mighty object shall be attained; when man shall be able to prevent disease and to reach with little or no suffering his three-score years and ten, so graphically described by the Psalmist, then, but not till then, will the world be a paradise, with God, Almighty, All-Wise and All-Merciful, in its midst, reflecting the glory of His Majesty and Power, and holding sweet converse in a thousand tongues with the human family."

HONOR FOR KENTUCKY FROM S. M. A.

Honor has been given the Kentucky Medical Auxiliary through the election of Mrs. Luther Bach, Bellevue, as President-Elect of the Southern Medical Auxiliary at the last Annual Meeting, held November 19, 1936, at Baltimore. Mrs. Bach is the immediate Past President of the Woman's Auxiliary to the Kentucky State Medical Association and is now serving as its Treasurer. She has served in other offices of the Auxiliary, including that of First Vice-President, Chairman of Organization; Corresponding Secretary and Chairman of Hygeia. She was President of her County Auxiliary, 1931-32, and has held other offices in that organization. We are confident Mrs. Bach will bring honor to the Southern Medical Auxiliary.

THE SOUTHERN AT BALTIMORE

The 1936 Annual Meeting of the Southern Medical Association and Woman's Auxiliary, held in Baltimore, November 16-19, with headquarters at the Lord Baltimore Hotel, was well attended with representatives from all of the Southern States. One outstanding accomplishment was the revision of the Constitution and By-Laws eliminating all membership dues with the provision for an Annual Budget from the treasury of the Southern Medical Association. Also, publication of the Proceedings of the Annual Meetings will be provided by the Southern Medical Journal.

Kentucky Auxiliary members will be happy to learn that the address at the Annual Luncheon was made by Dr. William H. Haggard, Nashville, on the subject of Mrs. Jane Todd Crawford, Pioneer Heroine of Surgery. Dr. Haggard made an inspiring appeal, which was enthusiastically received, for the annual observance of Jane Todd Crawford Day on December 13th, anniversary of the date on which Dr. Ephraim McDowell first visited his famous patient. Dr. Haggard urged that all County Auxiliaries throughout the South observe Jane Todd Crawford Day, telling the story—or, having some physician tell the story—to all women, contrasting the crude, painful, hazardous surgery of early days with the comfort, skill, and surety of modern surgery which serves as our protection today.

THE CORNELIAS

The Cornelias of The Quarterly?
Who are they ?
What do they do?

The Cornelias are the Auxiliary members who write, edit, and prepare the reading matter published in The Quarterly. During 1936, 39 different members contributed this Auxiliary service. Find their names in the Index, published on pages 137-139 in the October issue.

Briefly, their duties may be outlined as follows:

Write articles, reports, poems, editorials
Find suitable illustrations and secure cuts
Open mail from contributors and sort
Edit contributions for the press
List items and mail to printer with letter of instruction
Read and correct galley proof when received from printer
Trim edges of galley proof—reading matter and advertisements

MAKE THE DUMMY

Measure galley proof to fit page spaces
Determine page patterns and select copy
Fit galley proof—reading matter and advertisements—on page patterns
Paste proof on page patterns
Mail Dummy to printer with instructions
Read and correct page proof when received from printer
Return to printer

Although amateurs in the art of literary development, the Cornelias, nevertheless, find joy in this service, pushing their intellectual horizons well beyond the edge of hitherto unknown fields of thought and action.

THE ISABELLAS

The Isabellas?
Who are they?

The Isabellas are the Auxiliary members who finance The Quarterly. During 1936, nine members, aided by three interested friends, rendered this service. Find their names in the Auditor's Report of the Collections and Disbursements by Mrs. Wm. H. Emrich, Business Manager, recorded on pages 118, 119, 120 in the October issue. To these names should be added, Mrs. Paul A. Turner, Louisville, a valuable aid

A FEW CORNELIAS AT WORK IN McCORMACK HOME
MAKING THE DUMMY

Photograph by H. Hesse, Louisville.

Left to right: Mrs. L. E. Smith, cutting margins on galley proof; Mrs. Wm. H. Emrich, cutting margins on advertisements; Mrs. A. T. McCormack, measuring galley for page patterns, answering questions as to where to place Ad by Mrs. George A. Hendon, pasting the page patterns. Miss Grace Stroud, at typewriter, writing instructions for Publisher.

in securing advertising contracts, and, the 14 Donors—10 individual members and four County Auxiliary organizations.

What do they do? And, how?

The Isabellas sell advertising space in The Quarterly to reputable business firms, in accordance with the practice of the Kentucky Medical Journal and other first-class publications.

An Isabella interviews the head of a business firm, or the advertising agent, and explains her objective, displaying a copy of The Quarterly and pointing out the different sizes and styles of advertising: then, the Rate Sheet, showing the circulation and giving the cost of advertising space in five different sizes. Rates are arranged in four groups for:

The year—4 quarterly issues. January, April, July, October.

Three fourths of the Year—3 quarterly issues.

One half year—2 quarterly issues.

One fourth year—1 quarterly issue.

Explanation is made that the rates for one year are relatively cheaper, although totaling more cash outlay, than for fractions of the year, just as rates for the large spaces are relatively cheaper than for the small spaces when results are considered. Typesetting costs for a small ad are about equal those of a large advertisement.

The Contract Blank is shown, read, and the blank spaces properly filled-in when the size of the advertisement is determined. The signature of the firm is written on the dotted line by the contractor. The Isabella then gives the Advertiser a duplicate copy of the contract for reference in his own files and calls attention to the 2 per cent discount allowable for cash in advance, gratefully accepting the check when offered, as it frequently is, allowing the discount.

Lastly, but very important, the Isabella secures the copy for the advertisement as the advertiser wishes it to appear in The Quarterly.

Then, the Isabella reports to the Business Manager, Mrs. Wm. H. Emrich, presenting the contract, copy for the advertisement and, when possible, the check in advance payment.

Business people are good psychologists of the practical type. Isabellas learn some of their secrets as they attempt to use some of their practices. How too bad that O. Henry could not have been an Isabella! What amusing stories would have been immortalized!

SOME ISABELLAS CELEBRATE IN EMRICH HOME
FIFTH BIRTHDAY OF THE QUARTERLY

Photograph by H. Hesse, Louisville.

Left to right, from back row: Mrs. S. C. McCoy, Miss Simone Thompson, Mrs. Ruth Flagg, Mrs. Wm. H. Emrich, Miss Margaret Flynn, Mrs. Sidney J. Meyers, Miss Mayme Sullivan Mrs. A. T. McCormack

OUR BUSINESS

Mrs. Wm. H. Emrich, Business Manager

With the music of "Happy Days" and those joyful strains of "Peace on Earth" still sounding in our ears, we can think of no better wish for our generous Donors and loyal Advertisers, old and new, than that good old-fashioned wish "Happiness, Peace and Prosperity throughout this glad New Year."

The observations of statisticians and economists presage an era of Prosperity bringing New and Fresh impetus to all business. Some of our Advertisers are already riding the waves of this New Prosperity, in which it is mighty good to feel that our Quarterly has shared a part. For it is true that our women and their husbands and families are buying from our Advertisers and urging their friends to buy also.

We are not unmindful of that extraordinary confidence and faith manifested in us in those early difficult days and with the promise of support again in this New Year of 1937; we of the Woman's Auxiliary to the Kentucky State Medical Association will do our very best to make this traditional wish for "Happiness, Peace and Prosperity" come true.

AIMS

Of The Kentucky Medical Auxiliary

1936-1937

Mrs. Ernest A. Barnes, Albany, President

Be guided by our Advisory Council in all Auxiliary activities.

Each Auxiliary study and know the State Health Laws.

Promote the sale and study of Hygeia.

Promote unity and friendship through fellowship; assist in entertainment at County, District, and State meetings.

Each Auxiliary President appoint Chairmen for all approved State Committees.

Sponsor Child Health and Welfare programs with other Organizations.

Continue work on Jane Todd Crawford Memorial.

Stimulate, encourage, and sell advertising contracts for our Quarterly.

Further the aims and improvements of the Doctor's Shop.

Develop work on Cancer and Tuberculosis Control and the prevention of these diseases.

News items of Doctor's families and reports of Auxiliary activities, be sent in to the Editor before the first of December, March, June and September.

Develop Radio programs and increase listening audiences for health programs.

Each Auxiliary file Constitution and By-Laws with the State Parliamentarian.

Familiarize ourselves with the life and works of Dr. Joseph Nathaniel McCormack, and help erect a Memorial in his honor at Bowling Green.

Cooperate with the American Medical Auxiliary, and keep in close touch with the Southern Medical Auxiliary.

NATIONAL PRESIDENT'S ADDRESS AT ANNUAL LUNCHEON, PADUCAH, OCTOBER 8, 1936*

Mrs. Robert E. Fitzgerald, Wauwatosa, Wisconsin

It is a great pleasure to be here in Paducah with the members of the Kentucky Auxiliary. I have been "Kentucky minded" for a long time —ever since I saw my first copy of the Kentucky Quarterly and admired it. Then too, the invitation to this meeting was the first one I received as President of the National Auxiliary, in fact I received it about a month before I became President. It made me very proud and happy. I am sorry however, that I am unable to talk to you myself. Perhaps it is your good fortune because I am apt to ramble on much longer verbally than I am when wielding a strange typewriter. Many years ago when I was young, I used to sit breathless while a swain of my sister's sang "In the Land of the Sky Blue Water" by way of wooing. When he reached the sad last line that said "But the captive maid was mute" I used to ache in very ecstacy. I am wondering whether that song is not having its revenge on me today for I was born and reared on the shore of Lake Superior, which according to Indian legend is the Sky Blue Water, and today I am almost mute, and quite captivated by your friendliness and spirit of hospitality.

Since the Kentucky Auxiliary is an important part of the National Organization I feel I owe it to you who are interested members, to discuss with you my plans for the coming year. During the year that lies before this administration we are planning to stress four points. In the first place we hope to bring into closer relationship the county, state, and national organizations. It is surprising to hear sometimes that these are viewed even by some members, as separate organizations; whereas each is directly dependent on the other two for the achievement of the aims the three hold in common. In organization the same plan is followed in all three. The offices are the same, as are the standing committees wherever it is feasible. From this it is plain to see that frequent communication between corresponding officers and chairmen will bind the groups closer together

---

*Read by Mrs. E. A. Barnes.

KENTUCKY BOOK MANUFACTURING CO.
Telephone Wa. 1565 319 West Liberty Louisville, Ky.
Let us bind your Quarterly and Medical Journal

and will result in greater effectiveness. Concerted effort will bring about ever greater and more fruitful accomplishment. Our first aim then, for this year is to increase wherever possible the close relationship between the component parts of our organization.

Secondly we are sincerely anxious to increase the circulation of HYGEIA. This is the only piece of work that the American Medical Association has specifically asked us to do. The magazine itself is of primary importance since it is the only authentic health magazine designed for the layman. With the growing "health consciousness" of the American people we find a noticeable increase in the writings on health. Some are good but most of them are written simply to satisfy the popular demand for articles on health topics, with little or no regard for accuracy. Many of the so-called health columns in our daily newspapers come under this classification and yet are accepted as gospel by the average lay reader. Very often these columns serve as the medium by means of which the author may ride his pet hobby without restraint. Why not give the public the true information by urging the reading of HYGEIA? This is not a commercial project, the magazine has never shown a profit and is not published with that in mind, but is directly in line with the educational policy we sponsor. I hope that every Auxiliary member in Kentucky will make herself responsible for at least one subscription to HYGEIA for the coming year. Will you please try?

Thirdly, and closely allied with this subject of HYGEIA comes the general topic of education. The necessity for it cannot be overemphasized and I repeat again that before we attempt to teach others we ourselves must know whereof we speak. There are several ways of informing ourselves and not the least of these is regular attendance at Auxiliary meetings. Most of the programs planned for our meetings devote some time to reports which inform the members either of activities in their own group, other Auxiliaries, or deal with subjects allied with Medical Economics. There are the various publications too, which may be read with profit; namely the Auxiliary department of the Bulletin of the American Medical Association, the QUARTERLY NEWS LETTER, your own Kentucky QUARTERLY, and HYGEIA. If you do not know how to go about getting any of these I am sure Mrs. McCormack would be only too glad to give you the information. Your Public Instruction and Public Relations Chairmen are constantly arranging lectures which help in your education as well as in that of the layman. In an article by Mrs. J. Bonar White, National Chairman of Public Relations, we are told some of the things that an Auxiliary member should know in her campaign for self-education. I shall list a few of them for you:

(1) Personal and community hygiene.

(2) Administration of local, state and national health departments.

(3) Local, state and national medical and health laws.

(4) Communicable diseases, their prevention and control.

(5) Approved educational material and where to obtain it.

(6) What legislation the Medical Association approves; why; how the Auxiliary acts as a reserve force; and what the individual may do.

When we ourselves are equipped we may go out and teach others, not in an obtrusive manner, but by working in other organizations we may aid in teaching others. Work on program committees of other groups furthers our cause of education since it gives us an opportunity to present informed speakers to our club audiences whenever a health program is planned. Broadening our horizons in this way tends to make us not only valuable Auxiliary members but assets to the civic life of our communities.

The **fourth** objective of this year's administration deals with the **social** side of Auxiliary work. It is one of the most important aspects because of the prime position occupied by human relationships in our whole scheme of life. I should be bitterly disappointed if ever in our Auxiliary life red tape would be allowed to strangle the comradeship and the friendships that are such great factors in this work of ours. Free interchange of opinion, the feeling of well-being that comes from working side by side with someone interested in the same things that draw you, the tolerance, the breadth of mind, the vision engendered by learning to know different types of people from different

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parts of the country; the benefits that come from all these means added strength within our organization and within our own characters.

In this work of ours we must not think of ourselves merely as "givers," for we can get a great deal out of it all if we wish to. In Auxiliary work as well as in any other, our greatest pleasure and benefit from membership is measured by our own activity toward fulfilling the aims and objectives of the organization to which we belong. With these objectives firmly in mind let us work together toward our common goal, namely, to be an aid to the medical profession. I am going on to other states to hear of their work and to enlist their co-operation. I hope I shall go on feeling that this splendid and progressive state of Kentucky wishes me well and is standing back of me. I do not ask your support as an individual. I do not merit that. But, I do most humbly bespeak your co-operation as an unworthy representative of the 16,000 women who comprise the Woman's Auxiliary to the American Medical Association.

CANCER CONTROL

Mrs. J. Duffy Hancock, Louisville, State Chairman

CANCER MESSAGE

In the annual report presented at the Paducah meeting, attention was directed to the establishment of the Kentucky Unit of the Women's Field Army of the American Society for the Control of Cancer. Mrs. E. H. Heller, Louisville, has been appointed Commander for Kentucky. A preliminary organization meeting, called by Mrs. Heller, was held at the Brown Hotel in Louisville on October 14, 1936. Mrs. Marjorie B. Illig, of New York, the Field Representative, gave a general outline of what we hope to accomplish. The slogan adopted was "Fight Cancer with Knowledge." The work is to consist primarily of an educational campaign reaching every women's organization in every county in the State. A secondary objective is a nation wide drive for membership, similar to the annual drives of the American Red Cross with One Dollar memberships, to be conducted during Easter Week. Aside from the raising of funds such a plan is to be commended in that it will make more people cancer-minded and aroused for the fight against this destructive disease. We urge your cooperation. Be willing to serve in any capacity requested.

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RADIO WAVES

CHAIRMAN'S MESSAGE

Mrs. J. N. Bailey, Paducah, State Radio Chairman

We hope that every member of the Woman's Auxiliary to the Kentucky State Medical Association will become radio conscious this year.

The American Medical Association and the National Broadcasting Company are presenting the second series of dramatized health broadcasts under the title—Your Health. The time of the broadcast is Tuesday afternoon 4:00 P. M., Central Standard Time.

In Jefferson County, Kentucky, the Jefferson County Medical Auxiliary sponsors a program over Station WAVE at 10:55 A. M., Tuesday of each week. This is a five-minute program and the speakers are members of the Jefferson County Medical Societies who prepare their own addresses. Over station WHAS, a fifteen-minute program, known as the Woman's Interest Program, is presented every Thursday morning at 8:30 A. M. This program is interspersed with attractive musical numbers and the five-minute talks are made by members of the staff of the State Department of Health, and Louisville members of the State Parent-Teachers Association.

RADIO SUBJECTS FOR STATION WHAS JANUARY, FEBRUARY, MARCH

January 7th—Guiding the adolescent
January 14th—Scarlet Fever
January 21st—Influenza
January 28th—Dangers of quackery
February 4th—Parents responsibility in disease control
February 11th—Middle age and exercise
February 18th—Lawless cells—cancer
February 25th—Food advertising
March 4th—Temper tantrums
March 11th—Pneumonia
March 18th—Bootleg milk
March 25th—The family doctor

The State Radio Chairman has sent letters to all County Auxiliary Presidents asking them to arrange with their nearest broadcasting station for such programs as just mentioned and requesting, especially, that something be included to celebrate Jane Todd Crawford Day on December 13th.

It is hoped that each Auxiliary President will be able to report that listening audiences in her County were formed for these splendid programs. Radio material and suggested programs will be sent to each Auxiliary President, or Radio Chairman, upon request. In return, may we not hope that any program or radio activity sponsored by an Auxiliary will be reported to the State Radio Chairman in order that it may be recorded under Radio Waves in The Quarterly?

PROCEEDINGS OF THE FOURTEENTH ANNUAL MEETING OF THE WOMAN'S AUXILIARY TO THE KENTUCKY STATE MEDICAL ASSOCIATION, HELD AT PADUCAH, KENTUCKY, OCTOBER 5-6-7-8, 1936.

The Fourteenth Annual Meeting of the Woman's Auxiliary to the Kentucky State Medical Association opened at 9:00 A. M., Monday, October 5, 1936, at the Irvin Cobb Hotel, Paducah, Kentucky, with registration in the lobby.

STUDY CLASS

At 2:00 P. M., Monday, the Study Class was held in the small assembly room of the Woman's Club, Mrs. E. E. Smith, Bardwell, presiding. Three interesting and educational talks were given by members of the Kentucky State Medical Association: an illustrated lecture on the Conquest of Pain by Dr. C. C. Howard, Glasgow; Cancer Study by Dr. Irvin Abell, Louisville; Control of Communicable Diseases by Dr. Harry Andrews, Louisville. Mrs. H. V. Usher, Sedalia, gave a report on the Triennial Conference of the Associated Country Women of the World, held in Washington, D. C., the first week of June. With an announcement by Mrs. J. B. Acree, Paducah, of the numerous social activities that had been planned for the Auxiliary, the group adjourned for the Pre-Convention Board Meeting.

MINUTES OF THE PRE-CONVENTION BOARD MEETING

The Annual Pre-Convention Board Meeting of the Woman's Auxiliary to the Kentucky State Medical Association was held in the Assembly Room, Woman's Club, Paducah, at 4:00 P. M., Monday, October 5, 1936, with the President, Mrs. Luther Bach, Bellevue, presiding. A quorum was present.

The Invocation was offered by Mrs. B. K. Menefee, Covington.

A motion carried that the Minutes of the Post Convention Board Meeting of the Thirteenth Annual Meeting held at Louisville, October 2, 1935, be dispensed with as these had been published in the Quarterly for January, 1936.

Roll Call was answered by 14 members. Additional members arrived later.

The Nominating Committee was elected as follows:

Chairman, Mrs. A. T. McCormack, Jefferson County; Mrs. J. I. Greenwell, Nelson County; Mrs. Roxie H. Perkins, Clinton County; Mrs. Warren Sights, McCracken County; Mrs. W. T. Vaughan, Graves County.

The Resolutions Committee was appointed by the President with Mrs. B. K. Menefee, Covington as Chairman. Other members were Mrs. V. A. Stilley, Benton, and Mrs. H. V. Usher, Sedalia.

A motion by Mrs. B. K. Menefee, seconded by Mrs. A. T. McCormack, that the State Treasurer send to each County Treasurer notices when annual state dues are due; also the County Treasurers send cards to each member when annual county dues are due. Carried.

Adjourned, 5:00 P. M.

(Mrs. Thomas O.) Mabel Meredith,
Recording Secretary.

PRESIDENT'S REPORT TO K. S. M. A.

The President, Mrs. Luther Bach, appeared before the House of Delegates in Annual Session at the Irvin Cobb Hotel on Monday, October 5 at 8:00 P. M., and presented her report of the work of the Auxiliary for the past year. The report was highly complimented and unanimously approved by the House. (See Minutes of the House of Delegates, Kentucky Medical Journal, December, 1936).

JOINT SESSION

Tuesday, October 6, at 9:00 A. M. in the Ball Room of the Irvin Cobb Hotel, the Woman's Auxiliary met jointly with the Kentucky Medical Association for the Installation Ceremony of the President, Dr. J. D. Northcutt, Covington.

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MINUTES OF THE ANNUAL MEETING

First Session

The General Business Meeting of the Fourteenth Annual Meeting of the Woman's Auxiliary to the Kentucky State Medical Association was called to order in Paducah at the Woman's Club at 9:30 A. M., Tuesday, October 6, 1936, by the President, Mrs. Luther Bach, Bellevue. A quorum was present. Fifty-five members were seated at the opening of the session.

The singing of America was led by Mrs. Luther Carson, Paducah.

The Invocation was offered by the Reverend F. H. Olert, pastor of the First Presbyterian Church, Paducah.

The Address of Welcome was given by Mrs. C. E. Purcell, Paducah.

The Response was made by Mrs. B. K. Menefee, Covington.

Greetings and messages from the Kentucky State Medical Association were brought by J. B. Lukins, M. D., Retiring President, and by V. A. Stilley, M. D., Benton, Advisory Councilor, accompanied by Edward Speidel, M. D., Louisville, and C. W. Hibbitt, M. D., Louisville.

Roll Call showed 4 Officers, 8 Committee Chairmen, 3 County Presidents, and 35 Delegates present.

The report of the Committee on Arrangements was made by the Chairman, Mrs. J. B. Acree, Paducah.

The report of the Committee on Credentials and Registration was made by the Chairman, Mrs. O. R. Kidd, Paducah, who reported 67 members and 7 visitors registered, and 3 who registered by proxy but were unable to be present.

Upon motion by Mrs. George A. Hendon, Louisville, seconded by Mrs. E. B. Houston, Murray, the reading of the Minutes of the Thirteenth Annual Meeting was dispensed with as the entire Proceedings, including the Minutes, had been published in the January, 1936 issue of the Woman's Auxiliary Section of the Kentucky Medical Journal.

Mrs. C. E. Purcell, Paducah, introduced Mrs. Josephine Fowler Post, Paducah, to the Auxiliary as one of the few known living people related to Jane Todd Crawford. This relation was by marriage.

Mrs. J. T. Reddick, Paducah, was introduced by Mrs. E. B. Houston as being the woman to contribute the first dollar to the Jane Todd Crawford Memorial Fund.

Mrs. G. T. Fuller, Mayfield, was introduced by Mrs. V. A. Stilley, Benton, as having organized and been the President of the first County Auxiliary in Kentucky. This Auxiliary was in Graves County.

The motion approved by the Pre-Convention Board Meeting that the State Treasurer send notices to the County Treasurers when annual State dues are due and that County Treasurers send notices to each individual member when county dues are due was put before the House. Motion by Mrs. B. K. Menefee, seconded by Mrs. A. T. McCormack. Carried.

The President, Mrs. Luther Bach, delivered her report of the administrative office.

The 2nd Vice-President, Mrs. W. T. Little, Calvert City, presiding.

The report was accepted and filed and Mrs.

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Bach was given a vote of thanks and appreciation for her work.

Reports of the following County Auxiliaries were made by the respective Presidents or Delegates; received and filed:

Calloway
Campbell-Kenton
Franklin
Graves
Hardin
Jefferson
McCracken
Marshall

Mercer
not read, filed for publication
Nelson
Perry
not read, filed for publication
Samson Community Hospital Auxiliary

(All reports presented in writing will be published in the Quarterly.)

In Memoriam was given by Mrs. W. T. Little.

Recess.

(Mrs. Thomas O.) Mabel Meredith,
Recording Secretary.

TUESDAY, OCTOBER 6
INFORMAL LUNCHEON

An informal luncheon was enjoyed at the Woman's Club at 12:30 P. M., Tuesday, October 6, with a delightful musical program by Miss Esther Davies, soprano, accompanied by Miss Mary Lou Davies, in two numbers—"Luxemburg Gardens" and "At Parting."

Dr. L. E. Smith, Executive Secretary, Kentucky Tuberculosis Association, presented by Mrs. Luther Bach, introduced the speaker, Dr. Paul A. Turner, Director State Tuberculosis Sanatorium, Louisville. By the use of slides Dr. Turner showed the following outstanding facts: The first invasion of tubercle bacillus, as shown by X-ray; increasing involvement of first infection; next, that the first infection in itself is what is called benign; requires secondary infection to cause destructive type of disease; adult types of the disease; methods by which the disease is controlled.

DRIVE AND VISIT TO WICKLIFFE, 2:30 P. M.

The McCracken County Auxiliary acted as hostess for a delightful drive to Wickliffe, Kentucky, where an interesting visit was made to the Ancient Buried City. Card games at the Irvin Cobb Hotel and golf at the Country Club were arranged for those who did not care to make the trip to Wickliffe.

PUBLIC MEETING

Members of the Auxiliary attended the Public Meeting of the Kentucky State Medical Association held in the Methodist Church, at 8:00 P. M., Tuesday evening, October 6th. An address was given by Dr. J. D. Northcutt, Covington, the newly installed President of the Kentucky State Medical Association. This was followed by an address—"The Changing Times in Medicine"—by Dr. John H. J. Upham, Columbus, Ohio, President-Elect, American Medical Association.

The President's reception at the Lake View Club was followed by dancing. The McCracken County Medical Society was the host for this enjoyable evening's entertainment.

MINUTES OF THE ANNUAL MEETING
Second Session

The second session of the General Business Meeting of the Fourteenth Annual Meeting of the Woman's Auxiliary to the Kentucky State Medical Association was held in the Woman's Club at 9:00 A. M., Paducah, on Wednesday, October 7. The President, Mrs. Bach, presided. A quorum was present. The motion by Mrs. A. T. McCormack that all reports sent in by writing, but not read, be published in the Quarterly, seconded by Mrs. B. K. Menefee, carried.

Reports of the State Officers and Committee Chairmen were made, accepted and filed, as follows:

President and Corresponding Secretary's Correspondence Report—Mrs. H. C. White unavoidably absent—report filed. President-Elect,

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Mrs. E. A. Barnes. Treasurer, Mrs. Curt H. Krieger, absent.

The motion by Mrs. A. T. McCormack that the Treasurer's Report as submitted by the Auditor through the annual audit, published in the October issue of the Quarterly be adopted, seconded by Mrs. George A. Hendon. Carried. (For Auditor's Report, see October issue, 1936, page 116).

Archives, Miss Grace Stroud.

Cancer Control, Mrs. J. Duffy Hancock, absent. Report filed.

Child Health and Welfare, Mrs. Philip F. Barbour, absent—report filed.

Doctor's Shop, Mrs. Thomas O. Meredith.

Finances, Mrs. B. K. Menefee.

Historical Collections, Mrs. V. A. Stilley.

Hygeia, Mrs. A. D. Steely, absent. Report filed.

Jane Todd Crawford Memorial, Mrs. A. T. McCormack.

Legislation, Mrs. C. A. Menefee gave an oral report.

Organization, Mrs. J. Paul Keith, absent. Report filed.

Public Instruction, Mrs. William A. Jenkins, absent. No report.

Public Relations, Mrs. E. B. Houston.

Radio, Mrs. William Emrich, absent. Mrs. John C. Rogers read report.

Tuberculosis, Mrs. Lucius E. Smith, absent. Report filed.

Business Manager of the Quarterly Supplement to the Kentucky Medical Journal, Mrs. William Emrich, absent. Mrs. John C. Rogers read report.

Editor of The Quarterly, Supplement to the Kentucky Medical Journal, Mrs. A. T. McCormack, who again, presented a bound copy of the year's editions for the Archives. Motion by Mrs. George A. Hendon for a standing vote of thanks and appreciation to Mrs. McCormack and to Mrs. Wm. H. Emrich, Business Manager, for their work on the Quarterly; seconded by Mrs. V. A. Stilley, carried.

The report of the Delegate to the Annual Meeting of the American Medical Auxiliary, held in Kansas City, was presented by Mrs. E. B. Houston, Murray.

The report of the Delegate to the Annual Meeting of the Southern Medical Auxiliary held in St. Louis, Missouri, was presented by the secretary, as Mrs. A. D. Steely, Bardstown, was unable to be present.

The report of the Resolutions Committee was presented by Mrs. B. K. Menefee, Covington, chairman, as follows:

Resolutions

Whereas, The Fourteenth Annual Meeting of the Woman's Auxiliary to The Kentucky State Medical Association will close shortly, we hope with benefit to all in attendance and,

Whereas, Our Host Auxiliary together with The McCracken County Medical Society and The Kentucky State Medical Association have arranged for our comfort and delightful entertainment at this meeting and,

Whereas, The Irvin Cobb Hotel has so kindly attended all our wants, and,

Whereas, The Paducah Woman's Club has so graciously given us the use of their beautiful Club House in which to hold our meetings during this Session, and,

Whereas, The Local Press has been most considerate and generous in publishing accounts of our activities, Now therefore,

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sincere appreciation for all courtesies extended at this time, and,

Whereas, Dr. C. C. Howard, Dr. Irvin Abel and Dr. Harry Andrews contributed of their time to bring to us valuable lessons in our study hour, and,

Whereas, our Advisory Council members accompanied by Dr. J. B. Lukins, Dr. Edward Speidel and Dr. Chas. Hibbitt brought to us a message of good will and enocouragement from The Kentucky State Medical Association, and

Whereas, Dr. L. E. Smith and Dr. P. A. Turner gave us an illustrated lecture on Tuberculosis which was greatly appreciated and will be of great value to each of us in our studies for the coming year, giving us a better understanding of this dreaded disease, Now Therefore,

Be It Resolved, That we give our sincere thanks to each of these gentlemen for their valuable contributions to our Auxiliary at this time, and,

Whereas, The Presbyterian and Methodist Churches kindly gave the use of their buildings for services, and,

Whereas, The McCracken County Auxiliary arranged a luncheon and entertained with two musical numbers rendered by Miss Davis and Miss Davies; also a tea at the Paducah Country Club in our honor and sponsored games of golf and cards, furnished cars to take us to Wickliffe to visit the Buried City. And,

Whereas, The McCracken County Medical Society gave a reception and dance at Lake Park, now therefore,

Be It Resolved, That a vote of thanks and appreciation be extended to these several bodies. And,

Whereas, Our President, Mrs. Luther Bach and her staff of officers have given generously of time and effort to make this meeting a success in every way, Now Therefore,

Be It Resolved, That a rising vote of thanks be given them, also the Pages and all who have labored to make this one of the best meetings ever held by the Auxiliary.

Signed:
(Mrs. B. K.) Emma Menefee, Chairman.
(Mrs. V. A.) May C. Stilley.
(Mrs. H. V.) Treva Jones Usher.

The report was adopted unanimously.

Motion by Mrs. E. B. Houston for a rising vote of thanks to Mrs. George A. Hendon, Mrs. J. C. Rogers, Mrs. David Cohen, Mrs. Paul A. Turner, Mrs. E. A. Barnes, Miss Mayme Sullivan, Miss Simone Thompson, Miss Margaret Flynn, and any others who may have helped Mrs. A. T. McCormack and Mrs. W. H. Emrich for securing advertisements whereby the expense of publishing our Supplement was aided, carried.

It was moved by Mrs. A. T. McCormack and seconded by Mrs. George A. Hendon that a committee of three be appointed to read, approve, and accept the minutes of the General Meetings of the Fourteenth Annual Meeting of the Woman's Auxiliary to the Kentucky State Medical Association. Motion carried.

The committee was composed of Mrs. George A. Hendon, Mrs. J. I. Greenwell, and Mrs. Luther Bach.

The final report of the Chairman of Registrations and Credentials was given by Mrs. J. B. Acree and showed an attendance of 19 delegates or alternates, 62 members, 3 members who registered by proxy, 11 new or reinstated members, 15 visitors, all making a total of 110, representing twenty-five counties.

The report of the Nominating Committee was presented by the Chairman, Mrs. A. T. McCormack. Miss Grace Stroud moved the election of the candidates; seconded by Mrs. E. B. Houston. Nominations from the floor were called for. None were offered. Motion carried that the nominations be closed. A motion car-

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ried that the Secretary cast the ballot, whereupon, the following were declared elected unanimously:

President-Elect, Mrs. Stephan McCoy, Louisville, Jefferson, Auxiliary.

1st Vice-President, Mrs. J. Paul Keith, Louisville, Jefferson.

2nd Vice-President, Mrs. H. H. Hunt, Mayfield, Graves.

3rd Vice-President, Mrs. R. T. Layman, Elizabethtown, Hardin.

4th Vice-President, Mrs. J. B. Acree, Paducah, McCracken.

Recording Secretary, Mrs. Earl E. Smith, Bardwell, Ballard-Carlisle.

Corresponding Secretary, Mrs. Roxie Huddleston Perkins, Albany, Samson Community.

Treasurer, Mrs. Luther Bach, Bellevue, Campbell-Kenton.

Parliamentarian, Mrs. John South, Frankfort, Franklin.

The newly elected officers were called to the platform and introduced by the President, forming a guard of honor as Mrs. E. A. Barnes, the incoming President was installed and presented with the gavel by Mrs. George A. Hendon, a Past President.

Mrs. P. E. Blackerby offered a vote of thanks to Mrs. Luther Bach for her splendid work during her administrative year.

Mrs. V. A. Stilley, Benton, complimented the hostess Auxiliary, McCracken County, on their splendid work during the State Meeting and their delightful entertainment each day. Mrs. Stilley expressed a sincere wish that this new auxiliary continue to function and to be an active organization. She offered to lend any assistance within her power if they ever felt the need to call upon her in any way.

Adjourned sine die at 12:20 P. M.

(Mrs. Thomas O.) Mabel Meredith,
Recording Secretary.

ANNUAL LUNCHEON

The Annual Luncheon of the Woman's Auxiliary to the Kentucky State Medical Association was held at 12:30 P. M., Wednesday, October 7, 1936, in the Woman's Club, Paducah, Kentucky. This luncheon was given with the compliments of the Kentucky State Medical Association to its Auxiliary. The acting hosts were: J. B. Lukins, M. D., Retiring President; J. D. Northcutt, M. D., President; and the Advisory Council, Virgil Kinnaird, M. D., A. T. McCormack, M. D., V. A. Stilley, M. D.

The Toastmistress was Mrs. Luther Bach. The Honor Guest was Mrs. R. E. Fitzgerald, Wauwatosa, Wisconsin, President, American Medical Auxiliary.

The delightful musical program given by Mrs. Lloyd Emery, accompanied by Mrs. E. W. Jackson, consisted of:

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When I Have Sung My Songs, by E. Charles.

Each guest representing the Kentucky State Medical Association brought a word of greeting to the Auxiliary. Their spirit of help and cooperation inspired each member of the Auxiliary to attempt greater things during the coming year.

Mrs. R. E. Fitzgerald was unable, because of acute laryngitis, to deliver her address as she had planned. For her, Mrs. E. A. Barnes, the newly installed State President, read a brief paper summarizing the main points of the address which Mrs. Fitzgerald had hoped to bring to our Auxiliary. (See page 7.)

TEA AT THE COUNTRY CLUB

The members of the Auxiliary were guests of honor at a tea given by the McCracken County Auxiliary at the Paducah Country Club at 4:00 P. M., Wednesday, October 7, 1936.

SUBSCRIPTION DINNER

A subscription dinner was given at the Irvin Cobb Hotel on Wednesday evening, October 7, at 6:30 P. M. for members of both the Kentucky State Medical Association and its Auxiliary.

POST CONVENTION BOARD MEETING

The Post Convention Board Meeting of the Woman's Auxiliary to the Kentucky State Medical Association was held in Room 210, Irvin Cobb Hotel, Paducah, at 2:30 P. M., Wednesday, October 7, 1936. The President, Mrs. E. A. Barnes, Albany, presiding. An Honor Guest was Mrs. Robert E. Fitzgerald, Wauwatosa, Wisconsin, President of the American Medical Auxiliary.

The program of work for the coming year was presented by the President under the title —Aims of the Kentucky Medical Auxiliary. Each member was given a copy. Following explanation, a motion that this program be adopted was made by Mrs. B. K. Menefee, Covington, seconded by Mrs. V. A. Stilley, Benton. Carried. (See page 7.)

The question was raised of the Auxiliary having formal pins and badges, like the Kentucky State Medical Association uses for attendance record at Annual Meetings. Following discussion, Mrs. E. B. Houston, Murray, moved that the President appoint a committee to confer with the Advisory Council concerning this matter. Seconded by Mrs. V. A. Stilley; carried. A motion by Mrs. Stilley, seconded by Mrs. Houston, that this committee be given full power to act, providing the Advisory Council approves, and purchase the pins and badges before the next Annual Meeting in 1937; carried.

The President appointed the following Committee: Mrs. S. C. McCoy, Louisville, Chairman; Mrs. V. A. Stilley, Benton; Miss Grace Stroud, Louisville.

A motion was made by Mrs. A. T. McCormack, Louisville, seconded by Mrs. J. I. Greenwell, New Haven, that Mrs. B. K. Menefee, assisted by Mrs. C. A. Menefee, Covington, proceed with the development of a Handbook for use in the organization and promotion of Auxiliary work in Kentucky; carried unanimously and with enthusiasm.

Adjourned, 3:30 P. M.

(Mrs. Earl E.) Lena Smith,
Recording Secretary.

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Crackers
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The Food Values Needed
By Growing Children
MADE IN LOUISVILLE
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You hard-to-please people who haven't yet found what you're looking for in genuine travel comfort . . . you folks who feel that the last word in downright livableness is confined to your own home . . . we want you to read this!

We had you in mind when we selected the chairs in the lounge cars . . . chairs that fit like your favorite in your own living room.

We had you in mind when we began to air condition our trains, from coach to observation car. You travel cool as a cucumber — free from dust and noise, in air that's fresh and bracing always, never too dry, never too humid.

We had you in mind when we searched the Southland for those tempting Dixie dishes that are served on Louisville & Nashville diners.

We had you in mind when we built our smooth roadways and all-steel equipment. You glide along safely, swiftly, silently. And when the sun goes down and the stars come out, you sleep as sweetly and as deeply as you do in your own bed.

Your "Home Sweet Home on the Rails" . . . that describes perfectly the comfort and excellent service the L & N offers at fares of 1½¢ a mile in coaches, and from 2¢ to 3¢ a mile in sleepers and parlor cars exclusive of Pullman charge.

Make the L & N your "Home Sweet Home on the Rails." Any ticket agent will assist you.

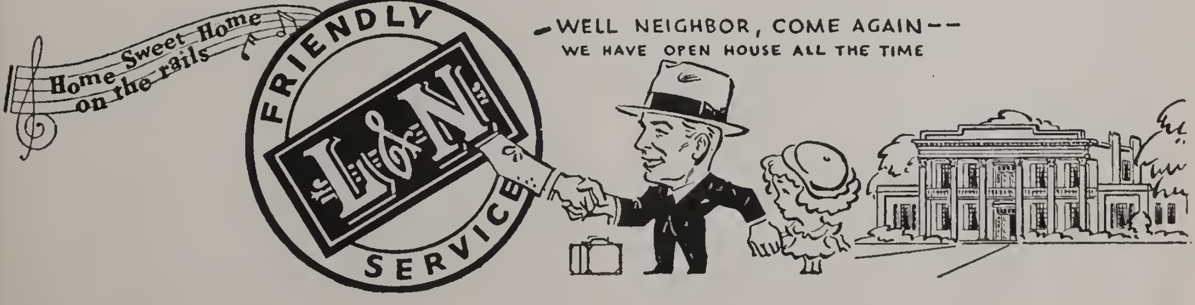
Ready—
as America Goes Forward

The railroads, like every other business in the land, have had their problems, and like every other enterprising business, have faced these problems with honesty and patience, with resourcefulness, *most of all with determination to go ahead.*

A vast range and variety of betterments in railroad practice and equipment is the result—air-conditioning, stepping-up passenger schedules to a point where many limited trains now *average* mile a minute speed, and speeding up freight transport—an average of 43%.

But the real story of railroad enterprise is scarcely told by these figures, for it is a story of speed *with safety* unmatched by any other transportation in the world!

ASSOCIATION OF AMERICAN R. R.


Home Sweet Home on the rails
FRIENDLY
L&N
SERVICE
WELL NEIGHBOR, COME AGAIN--
WE HAVE OPEN HOUSE ALL THE TIME

ADDRESS OF WELCOME

Mrs. C. E. Purcell, Paducah

Madam President, Members of the Kentucky State Medical Auxiliary and Friends:

It is my proud privilege and particular pleasure on this, your Fourteenth Annual Convention to welcome to our city and Women's Club Home this splendid, superior society, the Woman's Auxiliary to the Kentucky State Medical Association.

Compared to many other organizations of the women in our Commonwealth you are young in years. Nevertheless, you can point with pride to your record of work and worth. Your ambitions, your hopes, your plans, have been many and varied, but, you have so wrought in each that your hearts can glow with the joy of attempting and of achieving.

It seems apropos just here to give a brief resume concerning the origin and age of the aggressive, progressive program you have fostered.

It was 1917 at Dallas, Texas, that the initial Auxiliary to a County Medical Society was formed. In Texas, too, we find the first State Medical Auxiliary, organized May 13, 1918, at San Antonio. The National organization, Woman's Auxiliary to the American Medical Association was organized May 26, 1922 at St. Louis, Missouri. Kentucky however was one of the first states to follow the lead of the Lone Star State. On September 19, 1923, Kentucky organized at Crab Orchard. In 1923, the first unit of Kentucky, Graves County, was organized. Others followed fast. With enthusiasm and energy, the membership began a work, much of which is now an important part of Kentucky's Medical History.

The breadth of vision of the Auxiliary encompasses much that is for the good of home and State. The keeping before the schools of the how and why of health will give us shortly generations of men and women stronger physically, mentally and morally; for sickly, undernourished bodies will breed discontent and often give a warped outlook upon life. So it is imperative that our children be taught to grow into good healthy animals. Your stressing of the reading in home and school of good health magazines will quicken the thinking of mothers for their own few individuals in the households, as well as that of the teacher for the many in school. Your programs and discussions have awakened renewed interest in the Health Laws of our State. Where interest is, your work is, for—quoting Napoleon, "Two levers move people, Interest and Fear."

Gathering clippings for the Scrap Book have made you alert for educational material of the Medical profession and from your sister Auxiliaries for it is a truism "we can always learn from others"; if we cannot learn how to work in a better way, we can, at least, learn how to avoid mistakes made by others.

Your work in Research of the Lives and Labors of Pioneer Physicians has resulted in discoveries of many sacrificing spirits who did much with the meager material at hand. The crude instruments of those daring doctors who blazed the way for the medics of today enlist our interest and enrich our minds by realizing the fartherest shore.

You have served well in procuring and preserving this data. The Memorials you have sponsored or co-operated in securing are not merely bronze or stone. But, living, lasting reminders to all who pass that way, that men and women have so lived that they have enriched humanity; that their influence, like the concentric waves made by a stone dropped into the water, will widen and widen until it reaches the farthest shore.

These historical tablets, statues, obelisks all cause

"Age to remember,
Manhood to strive,
And Youth to long."

With these incentives what may we not reap in the ensuing years that will make the world wiser, brighter, better.

Your scientific and social sessions, have enriched mind and heart thus making you a constructive, not a destructive force. Your school essay contests have sowed germs of thought that will bring forth a harvest a hundred fold.

Among your diversified duties you were the first Auxiliary to publish a Supplement to the State Medical Journal, a quarterly, which you so fearlessly began in 1932, when the Depression seemed most overwhelming, and have so ably conducted ever since. Likewise, you were the first Auxiliary to send forth your Gospel of Good Health upon the air and thereby enrich a still larger audience in your Radio Program over WHAS and WLAP, later known as WAVE But—

"He either fears his fate too much,
Or his deserts are small,
Who fears to put it to the test
To win or lose it all."

Had you accomplished nothing more than any one of your achievements, you would have justified your being.

Perhaps the most widely known object of your broad vision has been your connection with the research and recalling facts of the life of that woman of fortune and faith who, without anesthetics or aseptics, fearlessly faced death, silently repeating the Twenty-third Pslam.

Today in many lands, Jane Todd Crawford is a household word along with the great surgeon of the wilderness, Ephraim McDowell, who dared do all that his scientific mind told him might relieve her suffering. She risked her life.

He risked his all, as a physician and surgeon, for this was the first ovariotomy in the world. Only a few years ago in Germany they thought this heroic woman was a negro slave—thus confusing the work of two great Southern Surgeons—McDowell of Kentucky and James Marion Sims of South Carolina who performed the first vesicovaginal fistula operation.

But today with the co-operation of the Kentucky State Medical Association, your excellent Auxiliary and other interested citizens, the world knows Jane Todd Crawford was a gentle woman of fine Virginia ancestry, of education, culture and religion, a pioneer, who made it possible, not only for herself to be made well and her life to be prolonged for many years, but also, by her act, enriching womanhood the world over.

It is fitting that her lonely grave has been searched out, and reclaimed in Indiana. Also, that the long sixty miles of primitive road over which she rode horseback from near Greensburg to the inspired surgeon in Danville, is now a hard surfaced highway with roadside planting and is officially named the Jane Todd Crawford Trail. It is splendid that a Jane Todd Crawford Library in her county-seat town is enriched by your donations of good literature.

When the cross adorned marble was dedicated in her honor at Danville, by the Kentucky State Medical Association, your Auxiliary played no little part. For years, we, individually have told the story of this wonderful woman and skilled scientist, principals in the great drama of surgery that has enriched all mankind. Let us tell, and retell, for all should know this epochal event and, quoting-Lowell,

"Though old the thought and oft expressed
It's his at last who says it best."

But time forbids to list all of your plans and purposes.

So again we say, Welcome to your distinguished, brilliant body of women, who have ever marched step by step with our distinguished Doctors. Whether native or adopted Kentuckians you come from God's country, be it the Mountains, the Blue Grass, the Bear Grass, the Pennyrile or the Purchase.

Welcome to this corner of Kentucky where the grass grows green not blue, where the odor of the pungent pennyroyal fills the air and where we revel in many FIRSTS. Welcome to the First District, where Joliet and Father Marquette first touched our Kentucky shores in July, 1673; to the First District, the Birthplace of Bessemer Steel that revolutionized industry; to the First District, the last resting place of Mathew Lyon, the Hampden of Congress, the thorn in John Adams' side, John the man for whom the Alien and Sedition laws were passed and through whose influence they were repealed. Yes, the man who cast the deciding vote that made Thomas Jefferson the President of the United States! Welcome to the First District, where sleeps a sister of President Jefferson and where the bridge spanning the Cumberland bears the name of The Lucy Jefferson Lewis Memorial, we believe, the first Highway bridge to be named for a woman. Welcome to the First District, birthplace of Radio in the city of Murray by Nathan Stubblefield. Welcome to the First District, that gave the key-noter for the last two National Democratic Conventions. The District that has sent skilled physicians to our great Metropolis, one of whom helped restore Franklin D. Roosevelt to health. The District that formed the first county unit of the Woman's Medical Auxiliary within our borders and whose first President, Mrs. George T. Fuller, (Graves County) was not only the wife of a doctor, but the mother of four doctors. To the First District, where was located the farthest Western Revolutionary Fort; and, where lies the Ancient Buried City, so recently unearthed.

Welcome to the land purchased from Chinnuby and his Chiefs. Welcome to this Western Ken-ten-tah-tah where lies Reelfoot Lake, formed by the New Madrid Earthquake. Welcome to our city where we revel in many firsts in medicine, some of which we know to be first, many for which research has not yet revealed a priority.

In the State of Kentucky: the first separate building for the treatment of infectious and contagious diseases was the Ewart Purcell Isolation Hospital at Paducah; the first three vaginal hysterectomies were performed by a First District doctor; the first to use veratrum viride in the treatment of puerperal eclampsia, likewise practiced in this district; the first to remove cataracts in the capsule was a Paducah doctor; the first to use the Murphy Button also lived here. The first endoscopy in the State was in our city by one of Paducah's own; the first intubation was by a Paducah Doctor. Also, a Paducah doctor is the inventor of several valuable instruments which are now being used over the country. As early as 1929 a Paducah doctor urged the purchase of the McDowell home as a shrine. In the world: the first two doctors to use hyosin and pilocarpine in the treatment of the alcohol and morphine habit were our own; the first physician to use atropin in the treatment of extreme collapse and shock was of Paducah.

One of the first two to save a patient suffering from diphtheretic membrane in the bronchi was a Paducah Doctor; almost at the same time, the other, Dr. Lynah of New York succeeded, each unknown to the other.

The first to give to the profession the theory of fresh air for pneumonia and kindred ailments likewise was in Paducah. To you, our guests within our gates, may your stay be happy, may you linger long and may you return often. You will ever find the keys to our city, our homes and our hearts. Welcome, thrice welcome to you collectively and individually.

RESPONSE TO WELCOME ADDRESS

Mrs. B. K. Menefee, Covington

My Dear Mrs. Purcell and Members of the Auxiliary of Western Kentucky:

On behalf of our President, Mrs. Luther Bach and the visiting members of the Woman's Auxiliary of the Kentucky State Medical Association, it is my happy privilege to respond to your cordial and gracious words of welcome, which have been spoken in the spirit of true Kentucky hospitality.

We are glad to be with you in this beautiful little city, the metropolis of Western Kentucky. We find it has greatly outgrown the sleepy little city so vividly portrayed in Irvin Cobb's Judge Priest stories. But, with all the many improvements, we enjoy seeing the few old houses with the tall columns of iron balustered porticoes which remain to remind us of antebellum days, also the lovely shaded streets of your city.

We have seen the granite effigy of Paduke, the Indian Chief, in honor of whom this city was named. We recall that at one time this section was known as the happy hunting ground of the Chickasaws and was designated by them as "The place where the grapes hang down."

From the time of our arrival in your city we have been made to feel welcome indeed. I am sure everything possible has been done to make our stay pleasant and we thank you sincerely.

Many of those present have made long journeys in order to attend this Annual Session. We have come from the Mountains, the Blue Grass, the Pennyrile and the Purchase. The journey across our beloved State was wonderful. The panorama spread before our eyes from time to time was beautiful and often awe inspiring. The mountains at this season with all their vivid colors baffle description. The Blue Grass section with its lovely homes, splendid roads, fine churches, schools and its many places of fame and interest was thoroughly enjoyed, as were the fine highways. We traveled over hills, across rivers, through pretty towns and the wide open spaces of Western Kentucky. At the end of the road we found a true welcome awaited us. And, again may we thank you. In speaking of Kentucky we are reminded of a lovely little poem by Doctor Van Dyke which reads as follows:

"These are the things I prize,
And hold of the dearest worth;
Light of the Sapphire skies,
Peace of the silent hills,
Shelter of forests, comfort of the grass,
Music of birds, murmer of little rills,
Shadow of clouds that swiftly pass;
And, after the showers
The smell of flowers,
And the good brown earth;
But best of all along the way,
Your Friendship and mirth."

All of which we, too, have seen and felt in our journey. We hope to derive mutual benefit from this Annual Meeting and be able to carry home with us the inspiration received and be able to impart it to our several local Auxiliaries. We hope the work for the coming year may go forward with renewed interest and that we may be of help to mankind through the activities planned at this meeting.

Mrs. Purcell, I am sure each of us will enjoy our stay here in Paducah. And, again, we thank you for your very cordial welcome.

PRESIDENT'S REPORT

Mrs. Luther Bach, Bellevue

It is with the greatest of pleasure that I welcome the Officers, Chairmen, Delegates, and guests, assembled in this Convention; and offer congratulations for the splendid number in attendance at this meeting. For many of us, it has meant special effort to make such a long trip, which fact makes us doubly appreciative of your presence, since it shows your real interest in this worthwhile work.

To you eligible women, members of physicians' families who are not Auxiliary members, we are especially glad to have you with us. Having enjoyed the friendship gained through association with these fine women with their high ideals, and having become acquainted with what they are trying to do, I am sure that you will want to join. We need you to "come over to the Auxiliary and help us." You will probably become some of our very best leaders.

This is a rare privilege we have of getting together to discuss the problems which are of such interest, and so important to us. We strive to correct our mistakes of the past, to improve upon our present accomplishments, and to inspire every one to higher endeavor for the future.

When I accepted the office of President of your organization, I had visions of great accomplishments, but having been handicapped by exigencies in my family, I have not been able to

TRIGG COUNTY HAMS
Country Cured
Kentucky has the best. We have the best in Kentucky. Let us supply you
J. W. COWHERD & CO., Cadiz, Ky.

accomplish all that I had planned. You, my loyal supporters and co-workers however have done much valuable work, and I am deeply indebted to you for your co-operation. To you belongs the praise for any success which has been made.

Following our Annual Convention in Louisville in October, 1935, copies of "Our Goal," the program of work for the year, were mailed to every County Auxiliary in the State for distribution—one for each member and a few extra copies for new and prospective members.

Letters were then mailed to the President of each County Auxiliary, to be read at the next meeting, in which every member was urged to co-operate in every phase of the work. They were also reminded that the State Convention had voted to observe Jane Todd Crawford Day on December 13th, and Doctor's Day on March 30th. We are glad to report that these special days were observed by several of the Auxiliaries with appropriate ceremonies.

Since Health Education for the laity is our chief reason for existence as an organization, and since this is so hard to accomplish through the medium of Hygeia, each Auxiliary was urged to try to create a "listening audience" for the Tuesday health broadcast of the American Medical Association as well as the broadcasts of our own State by announcing these programs in their clubs and other organizations. They were also asked to arrange,—where such was possible—talks by competent physicians on such subjects as Tuberculosis, Cancer Control, Poliomyelitis and Meningitis. These meetings were to be open to the public.

Since Tuberculosis is one of our most important health problems, each Auxiliary was urged to make special effort to educate the laity as to its prevention and treatment. They were asked to do this not later than December in order to stimulate interest in the Christmas Seal sale. Some of the Auxiliaries responded to this request by arranging illustrated lectures on tuberculosis which were well attended.

Two of our Auxiliaries arranged for lectures on Cancer Control which we feel were worth while. The Jefferson County Auxiliary arranged radio broadcasts on each of these subjects.

In December, I visited Samson Community Hospital Auxiliary and was delighted with the interest shown in the work, in spite of the fact that some of the members had to drive fifty miles or more in order to attend the meetings.

In December, I also made a trip to Maysville in an effort to organize an Auxiliary in Mason County, but they were apparently not ready for organization at that time.

In April, McCracken County was re-organized with a membership of twenty-one. In the same month, Franklin County re-organized with a membership of twenty-five. In September, Breathitt County took her place among the progressive counties by organizing with twenty-two members. Each of these new Auxiliaries has a splendid corps of leaders and judging from their present plans for work, they are going to be among our most valuable organizations. Repeated attempts to interest eligible women in organization in several other counties have failed thus far. While we have had encouragement of progress being made, no definite organizations have materialized.

I attended the meeting of the Auxiliary to the Southern Medical Association in St. Louis in November, 1935 and the Auxiliary meeting of the American Medical Association in Kansas City in May, 1936. Both of these meetings were a real inspiration to me and gave me a broader vision of what the Auxiliary does in the way of service to the medical profession. Detailed reports of these meetings will be given by Mrs. A. D. Steely and Mrs. E. B. Houston.

Since the Chairman of the various committees and County Presidents have their own reports to make, you will pardon me if I do not take any more time except to say that I am deeply grateful for your wholehearted support.

I am glad to say that ours is not a group to recognize defeat. We prefer to "beat a charge rather than a retreat." If in my blundering way I have made mistakes, please know that they have been of the head and not of the heart and generously forgive them, accordingly.

PRESIDENTIAL ADDRESS

Mrs. Ernest A. Barnes, Albany

I am happy to stand before you as your new President for the coming year. It is a great honor and I truly appreciate it. You splendid women have set a wonderful record for me to follow. Many of your achievements stand as an inspiration to me.

There are several reasons why we should keep ourselves active Auxiliary workers: We owe it to our husbands' profession to be interested. Next, the laity are anxious for the knowledge and help that we as doctors' wives and Auxiliary members can give them. I have

Our Entire Store and Personnel Are Ready To Serve You at All Times
MODEL DRUG STORE
BARDSTOWN ROAD AND EASTERN PARKWAY
THE LARGEST DRUG STORE IN THE HIGHLANDS. LOUISVILLE, KY.

found that it also helps the doctor. If you live in a community where you are already engaged in many organizations, teach or infiltrate your Medical Auxiliary work with your other activities.

We must continue our projects already under way, yet, adding a new one is sometimes the incentive that spurs us on to new and increased efforts. During the past few months I have become greatly interested in initiating a movement that will result in the erection in Bowling Green of a memorial to Doctor Joseph Nathaniel McCormack. Dr. McCormack was a great pioneer physician; the father of the public health service in Kentucky and, to a great extent, in the nation. He was one of the leaders in the reorganization of the American Medical Association. Truly, he was one of the greatest men that Kentucky has ever produced. Permission has been given by the Advisory Council that we initiate this project and several physicians have commented favorably upon it. However the Executive Board of the Auxiliary has yet to pass upon it. If we undertake and carry through this new project it will be enshrined in the hearts of the profession for many years to come and will result in the creation of a memorial to one of the great physicians of our State. I have been making plans for raising funds to carry this project to completion. These plans will be explained more fully during the coming year.

In conclusion, let me ask you to continue your good work in every project already begun, and lend me, please, your advice and a helping hand toward another successful year.

Let me say that I have had a very enjoyable time here in Paducah at this 14th Annual Meeting of the Kentucky State Medical Auxiliary. We like to think that your Old Chief Paduke has been looking down on us with approval while we have camped where he once ruled his Indian tribes. And that he has extended to us a cordial greeting, the hand of friendship, and so directed our affairs that we have had a most enjoyable and profitable meeting.

The McCracken Auxiliary is to be greatly commended on their splendid entertainment, their perfect co-operation, and their very enthusiastic and successful beginning in Auxiliary work.

MEETING

Mrs. William H. Emrich, Louisville

Were I to search from morn 'til night,
This universe from end to end:
I could not find such great delight
As in the handclasp of my friend.

for

delicious
sandwiches

●

HONEY-KRUST
Bread

Our Children

MAY BE IMMUNIZED AGAINST MOST OF THE CONTAGIOUS DISEASES OF CHILDHOOD THROUGH CO-OPERATION WITH THE DEPARTMENT OF HEALTH IN THEIR CAMPAIGN FOR DISEASE PREVENTION.

Diphtheria, Small-pox and Scarlet Fever, have caused intense suffering and in many instances death. The complications following these diseases have been responsible for many unsound bodies. Schools have been closed and social activities interfered with because of the sickness associated with these diseases. For many years Small-pox has been kept under control where vaccination has been regularly practiced. In recent years Diphtheria Toxoid, first in its crude state and later when treated with alum, has proven of inestimable value in the prevention and control of Diphtheria. Scarlet Fever, one of the most contagious of all diseases of childhood may now be prevented and controlled through immunization with Scarlet Fever Toxin. Attempts are being made to control other diseases which menace our children. Pertussis Vaccine is believed to be reducing the incidence of Whooping Cough, and since its use is not harmful it is believed statistics will soon prove the worthiness of the product. In many instances the disease is prevented, and in other instances the paroxysms and general symptoms of the disease modified.

The programs of immunization of the State Health Department and other agencies against disease deserve support.

A SUPPLY OF BIOLOGICAL PRODUCTS MAY BE OBTAINED FROM THE STATE DEPARTMENT OF HEALTH OR FROM THEIR DISTRIBUTING STATIONS LOCATED THROUGHOUT THE STATE.

The Gilliland Laboratories, Inc.

MARIETTA. PENNA.
Proven Biologics for over fifty years.

THE JANE TODD CRAWFORD MEMORIAL

ANNUAL REPORT

1935-1936

Jane Todd Crawford Committee*

Conforming to the Resolution adopted at our last Annual Meeting (page 21, January issue of The Quarterly), Jane Todd Crawford Day, December 13th, was celebrated with appropriate ceremony and activity of various types by several different Auxiliary organizations in Kentucky. Reports on 7 have been sent to me and are published in The Quarterly for 1936. If there were other observances, I will appreciate having a report on these, too.

The Resolution reads:

"Whereas, Commemoration of December 13th has been recommended as the anniversary of the initial visit of Dr. Ephraim McDowell upon Mrs. Jane Todd Crawford, first patient to submit to the Great Experiment, beginning of the development of modern abdominal surgery, Now, Therefore,

Be It Resolved: That each County Auxiliary sponsor some form of recognition and honor to our Pioneer Heroine on that day."

The Auxiliaries reporting Jane Todd Crawford Day Commemoration are:

Campbell-Kenton: Mrs. J. H. Caldwell, Newport, Chairman.

Books for Jane Todd Crawford Library, Greensburg, solicited at regular monthly meeting, St. Elizabeth Hospital, Covington, Monday, December 2, 1935.

Public Meeting held Friday evening, December 13, 1935, at Covington Chamber of Commerce, well attended. Story of Mrs. Jane Todd Crawford told by Mrs. Emma Menefee. Illustrated lecture on Tuberculosis by Dr. Paul A. Turner, Hazelwood, State Tuberculosis Sanatorium, Louisville.

Graves County: Mrs. H. H. Hunt, Mayfield, Chairman.

All-day meeting, December 13th, at home of Mrs. H. V. Usher, Sedalia. First number on program was listening-in party for radio-broadcast on the Pioneer Heroine of Surgery, entitled, An Important Day In Medical History, presented by Miss Margaret Flynn, Louisville, over WHAS, at 10:40 A. M. Brief summary of Miss Flynn's address was prepared by the Chairman and published in the next issue of the local newspaper.

Hardin County: Mrs. G. W. Woodard, Elizabethtown, Chairman.

All day meeting at home of Mrs. R. T. Layman, Elizabethtown, Friday, December 13th. Quilting for one of the free beds at Hazelwood, State Tuberculosis Sanatorium.

Jefferson County: Mrs. George A. Hendon, Louisville, Chairman.

Memorial observance at regular quarterly meeting, Monday, December 2, Brown Hotel. Books for Jane Todd Crawford Library Greensburg, solicited.

RADIO ADDRESSES

WAVE. December 12. Auspices, Jefferson County Auxiliary—Speaker: Dr. A. T. McCormack.

WHAS. December 13. Auspices, State Department of Health—Speaker: Miss Margaret Flynn.

Mercer County: Books solicited and sent to Jane Todd Crawford Library, Greensburg.

Nelson County: Mrs. R. H. Greenwell, Bardstown, Chairman.

Luncheon for Auxiliary members at Old Stone Tavern, Bardstown, Friday, December 13th, followed by Open Meeting attended by members of all other women's organizations. Story of Mrs. Jane Todd Crawford told by Mrs. A. T. McCormack.

Samson Community: Essay Contest conducted in schools of Clinton County with book prizes for winners. On March 4th, Jane Todd Crawford Story told by Mrs. A. T. McCormack to the Edmund Trabue Chapter, D. A. R., Glasgow.

At the Southern Medical Auxiliary Meeting held in St. Louis, November 19-20, 1935, the

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*Presented to Annual Meeting, Kentucky Medical Auxiliary, Paducah, October 7. 1936.

CHRIS MILLER
1869
JOHN H. MILLER FUNERAL HOME
Miller Funeral Home, Inc.
FROM FATHER TO SON TO DAUGHTER UNTO THE THIRD GENERATION
HAVE DESCENDED THE TRADITIONS OF THIS INSTITUTION
1617 W. Jefferson, Louisville, Ky. Jackson 5832
Mrs. John H. Miller, President Miss Alice Leslie Miller, Director

Jane Todd Crawford Project was given considerable impetus and encouragement. And—the first actual money paid to the Southern Medical Auxiliary Jane Todd Crawford Memorial Fund was paid by Oklahoma. (This is the fund to which we pledged the First Thousand Dollars, most of which our Treasurer now has in Bank.)

In Indiana, the Woman's Auxiliary and the State Medical Association have decided to work together for the purpose of memorializing four outstanding medical pioneers, the first named of which is Mrs. Jane Todd Crawford. Mrs. Crawford spent the last third of her lifetime in Indiana and there found her last resting place. The Indiana joint committee, known as The Pioneer Memorial Committee, consists of four members of the Medical Association and nine members of the Woman's Auxiliary. They have developed a definite plan of action about which we expect soon to hear more.

The trees planted along the Jane Todd Crawford Trail in Green County weathered their first winter fairly well. Shrubs and flowers were added to this section during the spring months.

155 native trees, secured through the generous courtesy of the State Forest Service, were planted by the NYA, under the supervision of Mr. C. V. Bryan, Taylor County Farm Agent, along the highway in Taylor County early last April. I have no report on these trees since.

Kentucky law gives this State two Arbor Days—one in the Spring and one in the Autumn. Would it not be advisable to stimulate the planting of more trees along the Jane Todd Crawford Highway this Autumn? Undoubtedly, Autumn plantings would stand a better chance for survival than Spring plantings with summers such as 1936?

One long-sought desire has been fulfilled! At least, in part!

The Ephraim McDowell House, Danville, has, since our last Annual Meeting, come into the possession of the Kentucky State Medical Association. But—not for long! The State now owns it. Through WPA, a Federal allotment for restoration became available, providing certain conditions were met within a short specified time. One of these conditions was that the property must belong to the State through the State Park Commission. And—the State must make application for the Federal allotment before Tuesday, November 26—or forfeit the WPA allotment.

Your Chairman experienced the thrill of a lifetime, when, on November 22, 1935, because neither the Chairman nor any qualified Officer of the State Medical Association could leave his work for an emergency trip to Cynthiana and Danville, she had the rare privilege of making that trip, representing the Association, to vouch for their Attorney, Mr. Lee Hamilton, as he collected from the Treasurer of the Kentucky State Medical Association, Dr. Marshall McDowell, Cynthiana, a loan from a Special Fund to cover the purchase price of the McDowell Home. Then, rushing on to Danville—losing our way often in the darkness where cross roads and detours and construction confused. After a hasty meal at the local hotel, we finally found ourselves in a beautiful old home, sitting beside a cheerful wood fire that thawed a bit of the chill from our bones as our genial hostess, Miss Emma Weissiger, and her attorneys, Mr. J. W. Nichols, and Mr. Lee Moore, entered into the last steps of the transfer to the Kentucky State Medical Association of the McDowell property, held by the Weissigers for many years.

When that check was paid and the Deed, to the State Medical Association, for the McDowell property handed to our Attorney, I realized that WPA stands for more than one kind of relief! (What Persistence Accomplishes!)

We spent that night in Lexington, reporting to the Secretary of the Kentucky State Medical Association, Dr. A. T. McCormack, busy at a formal conference. Next morning, Dr. McCormack and Attorney Hamilton drew-up the Deed passing the McDowell property from the possession of the Kentucky State Medical Association

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to the State through the Kentucky State Park Commission. Then followed long distance telephoning to reach the State Park Commissioner, Mrs. Emma Guy Cromwell, finally located in Henderson, and Attorney General, Mr. Bailey K. Wooten, whom we never did reach but, hoped, through various channels, to see eventually. Our search for him reminded me of childhood's hare and hounds chase. In person, however, we did find him, after the office had closed, Saturday noon, November 23, patiently, courteously waiting for us at the State Department of Health, Louisville. Together, Mr. Wooten and Mr. Hamilton, in the latter's office, prepared the Deed for transfering the McDowell House and land from the Kentucky State Medical Association to the Kentucky State Park Commission. This was signed by the President of the Kentucky State Medical Association, Dr. J. B. Lukins and the Secretary, Dr. A. T. McCormack.

Then followed much work on the copying of abstracts, deeds, etc. all day Sunday. And—all day Monday, November 25, the last day of grace, Dr. McCormack and Mr. Hamilton spent in Frankfort and Danville completing the negotiations with the Governor and the State Property Commission for the acceptance by the State. Utterly fagged from an unusually harassing day, Dr. McCormack returned home long after midnight to find me in a like state because of anxiety lest through some slip or technicality delay might cause the loss of the WPA allotment fund for restoration. This fund for restoration of the Kentucky State Medical Association's precious week-end possession was essential. For, where else could the money and means be found to make the McDowell property the memorial shrine that all wished it to be? After restoration, it is hoped that the McDowell property may, through the State, become a National possession and be maintained and cared for as a National Shrine, a perpetual reminder of all that is best and finest in medicine, a glory to the medical profession.

Of special interest to Auxiliary members is the reservation in the McDowell House for one room to be dedicated to the most illustrious guest who ever graced its portals, Mrs. Jane Todd Crawford. More about this, we will likely be hearing eventually, from the McDowell Memorial Committee of the Kentucky State Medical Association through our Advisory Council.

Respectfully submitted,
(Mrs. A. T.) Jane Teare McCormack, Chairman,

CANCER COMMITTEE*

During the past year, we have had, in the various numbers of our supplement to the Kentucky Medical Journal, articles which detailed our plans and accomplishments. Therefore, this report will be only a brief summary of those announcements.

Early in the year, we set as our objective, a plan to have every organization of lay women in every county of the state to hear one talk on cancer by a physician. To accomplish this, it was necessary to have appointed in each county, a chairman and other necessary members of the committee. Such appointments were made in so few counties that we have to admit a rather complete failure in obtaining this main objective. However, there is no reason why we should not try to do this during the coming year. The ground work has been laid by an intensive campaign among the doctors during the last few years, and it is now our turn to carry on. This accomplishment will probably be easier now, since there is being organized in the state, a lay army under the auspices of the American Society for the control of Cancer, with Mrs. E. H. Heller of Louisville as the commanding officer. We urge that the new committee cooperate in every way in this work.

Another objective which we hoped to attain was the incorporation of several cancer talks in the health series broadcast over the radio. We were much more successful in this, in that several radio talks on cancer were given.

Another accomplishment was our assistance in publicizing the sectional meeting of the American College of Surgeons, which was held in Louisville in March of this year. An important part of the program of that group was devoted to cancer, and we feel that we were of some assistance in helping advertise that meeting.

We would like to urge in closing, that our members make it a practice to emphasize these points whenever they are in a group when a question of cancer is discussed; first, advise against any type of self-medication, and secondly, insist upon an early examination by a qualified physician when the presence of a lump or abnormal discharge is observed anywhere in the body.

Respectfully submitted,
(Mrs. J. D.) Marie Seelbach Hancock
Chairman, Cancer Control Committee.

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*Annual Report presented at Paducah, October 7, 1936.

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REPORT OF THE TUBERCULOSIS COMMITTEE

At the beginning of this report, I think it is well to keep in mind the objectives of the Tuberculosis Committee. These were clearly stated in last year's report and printed on Page 90 of the July, 1936, issue of The Quarterly. It would be well for each member of our organization to review this report, in order to keep our aims clearly in mind.

In accordance with our policy, during the past year, we have endeavored to attack tuberculosis from various angles. In studying the tuberculosis problem in particular and health problems in general, we are confronted, with the need for more education. On every side, we see things which convince us that the great masses of the population do not know what to do when facing the real problems of life. All normal people want to live, prefering to enjoy life rather than suffer afflictions, but they do not know the way of life which leads them up and on to the higher plains of human existence.

We recognize that the Kentucky Tuberculosis Association is the only State-wide organization dedicated entirely to the fight against tuberculosis, that the major part of its program is education, and that the Christmas Seal is its only means of support; therefore, the Tuberculosis Committee did every thing possible to assist the association in planning and carrying out its Seal sale program. All local chairmen were contacted and advised how each one might contribute the most to this worthwhile program. In some instances, they supported local organizations already in existence; in some other localities, they were forced to organize and carry on the entire program. The spirit of cooperation seemed very gratifying, and we have good reasons for believing that the noted increase in last year's Seal sale was in part due to our efforts.

The Early Diagnosis Campaign promoted by the Kentucky Tuberculosis Association, in April of each year afforded us another splendid opportunity to render service. Again each local organization was contacted, and special material was distributed in all localities covered by our organization.

Assistance was rendered, also, in arranging and carrying through diagnostic tuberculosis clinics. We cannot give any definite figures, but we know considerable time and energy were spent by our representatives. We are grateful to them for this spirit of cooperation and helpfulness.

Material has been provided for the tuberculosis page in each issue of our Journal. This work speaks for itself and is in the hands of every reader. On October 3, 1935, a special trip to Hazelwood Sanatorium was arranged, in order that officials of the organization might get better acquainted with the State Sanatorium. On October 5th, by special request of the Perry County Chairman, literature was sent to meet a definite need in that territory. On October 10th, special literature to meet the needs of a senior high school was supplied, at the request of the president. Many other requests of similar nature were taken care of from time to time.

More than forty (40) letters have been written during the year. Each letter was in response to some call from the field, for the purpose of calling attention to some specific need. More than five hundred (500) pieces of special literature have been distributed by field workers during the year. Special material has been sent to all the physicians in territories covered by our local chairmen. In this way, a special effort was put forth to keep our physicians in close touch with the newer and important developments in tuberculosis control.

Many small services, not worthy of mention in this report, have been rendered, from time to time, throughout the year. We have tried hard to make the people of Kentucky tuberculosis conscious and to stimulate them to do their part in making our State a safer place in which to live.

We wish to express our appreciation to the Kentucky Tuberculosis Association for furnishing us a stenographer, and supplying the postage, thus making it possible to work without any expense to our organization.

Respectfully submitted,

Beulah Grace Smith (Mrs. L. E. Smith).

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IN MEMORIAM

Mrs. W. T. Little, Calvert City

We pay tribute today in our humble way to Mrs. J. B. Wheeler of Perry County and to our other departed members, who have sacrificed during their lifetime that others may benefit by their love, who gave us inspiration, courage and gratitude.

Mrs. Wheeler, President of Perry County Auxiliary in 1930-31, was first Vice-President of her county in 1928-29 and was a Charter Member of Perry County Auxiliary. We extend sincere and heartfelt sympathy in the passing of this valued friend and member.

Word has been received, since arrival at this meeting, of the passing of Dr. William C. Dugan. We all remember Mrs. Dugan as our State Treasurer during the years of 1930-1932.

Also, with the deepest regret we recall the passing of two other very dear friends of the Auxiliary since our last meeting. Dr. Jethra Hancock, Louisville, Kentucky, and Dr. J. W. Sams, Crestwood. Dr. Hancock was always our friend, never too tired or too busy for a word of advice or help. He did much for the Jane Todd Crawford Memorial and was one of the Committee on the Jane Todd Crawford Trail which the State Highway Commission officially named in honor of our Heroine of Surgery.

Dr. Sams was another staunch, true friend of the Auxiliary and did everything he could to assist Mrs. Sams while she was Corresponding Secretary for the State and also for the same office of Southern Auxiliary. They will be greatly missed in our circle of friends.

Our hearts go out in tenderness, love and sympathy to their families and Mrs. J. B. Wheeler's family, neighbors and friends in her own community where they enjoyed living and laboring.

"Like a ship that's left its moorings
And sailed out to sea
So, some one dear has sailed away
In calm serenity.
But there's promise of a greater joy
Than earth could have in store
For God has planned a richer life
Beyond an unseen shore."

In memory of these loved ones who have gone before, we stand in silent reverence for one minute.

Amen.

(Proceedings Continued in April Issue.)

NEWS FROM THE COUNTIES

CAMPBELL-KENTON

The benefit concert of the Northern Kentucky Symphony Orchestra, given at the Newport High School Auditorium, November 1st, notwithstanding severe stormy weather, provided $310.00 towards the establishment of a Children's Ward in the Speer's Memorial Hospital, Dayton. Byron Bach, Bellevue, violincellist, was solo artist. The $310.00 presented to the Speer's Memorial Hospital represented 40 per cent of the net proceeds. 60 per cent of it went into a scholarship fund. Several Campbell-Kenton County physicians and their wives acted as patrons and patronesses for the concert.

At the regular monthly meeting, held November 5th at St. Elizabeth's Hospital, Covington, Dr. Bernard Schwartz, Cincinnati, delivered a most interesting lecture on What We Should Know About Hearts. The student nurses of St. Elizabeth's Hospital and the members of the Red Cross Classes in Home Hygiene and Care of the Sick taught by Mrs. Charles Baron, our President, were invited guests. Following the program, the Auxiliary members served cake and coffee.

The regular meeting for December was held Thursday evening, December 3rd, at the home of Dr. and Mrs. Charles Baron, Latonia, and was well attended. The meeting was really a Christmas party with an exchange of small gifts and greatly enjoyed by all present. Gifts for the Christmas baskets to be sent to the orphanages were brought and wrapped. Observance of Jane Todd Crawford Day is to be through newspaper publicity, believing that more general attraction is possible through this medium. Separate lecture meetings for adolescent girls and boys are planned for January when Venereal Diseases will be discussed.

GRAVES

The Graves County Medical Auxiliary met at Hall Hotel, Mayfield, November 28th for the regular November meeting, with Mrs. H. V. Usher presiding in the absence of the President. Brief reports from the Annual State Auxiliary Meeting held in Paducah, October 5-7, were given by the 15 members who had attended from

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Graves County. Mrs. George T. Fuller, Mayfield, was appointed Historian. Mrs. Fannie Blount, Jane Todd Crawford Chairman, read a letter from the State Chairman regarding the Observance of Jane Todd Crawford day. It was arranged that each member would listen in her own home to the radio broadcast on Jane Todd Crawford over WHAS, as it is scheduled for an early hour, 8:30 A. M. Then, later in December, a Tea given in her honor, to which each Auxiliary member may invite some friend. Tuberculosis was discussed by Mrs. J. H. Mayer, together with the Christmas Seal Sale. All enjoyed examination of the Scrap Book kept by Mrs. Usher.

Mrs. Betty Lyon, Kevil, was guest of honor on the Rexall Train which recently made a tour of the country and stopped at Mayfield. Mrs. Lyon, mother of the Lyon Quintuplets, was honored as the most famous person in Graves County. The Lyon babies, all boys, lived for several days. Their combined weight, at birth, was more than twenty pounds.

Several members of Dr. W. J. Shelton's Bible Class, of the First Christian Church, Mayfield, Kentucky, including Mrs. W. J. Shelton, Mr. and Mrs. O. M. Merritt, and Mr. and Mrs. W. T. Vaughan went to Paducah Sunday night, October 4, 1936, to hear Dr. W. J. Shelton speak before the League of Christian Physicians.

Dr. Shelton's address, "Medicine and Religion," was the opening address of the annual convention of the Kentucky State Medical Association.

Mrs. H. V. Usher, Sedalia, was a member of the Resolutions Committee at the State Auxiliary Convention at Paducah.

Dr. and Mrs. E. C. Walter recently entertained with a barbecue supper at their home "High Contente" in honor of their guests present for the horse show.

Graves County is fortunate in having Mrs. H. H. Hunt as an officer of the Woman's Auxiliary to the Kentucky State Medical Association. Mrs. Hunt, a community builder, has a fine personality, talents mixed with kindness and a Christian character. She will prove a valuable asset to our State Auxiliary organization.

Give an old copy of Hygeia to the schools and let the teacher see what an aid it will be in health projects. An effort is being made to introduce Hygeia into the schools. The parents could be interested in this worthwhile effort through the Parent Teachers Association. Miss Hattie Veal, Mayfield, principal of W. J. Webb school, was among the first to subscribe to Hygeia and initiate health work in the school.

Miss Jincy Hunt has returned to her home in New York City after a two weeks visit with her parents, Dr. H. H. and Mrs. Hunt. Miss Hunt is a former President of the Graves County Auxiliary.

Dr. and Mrs. W. J. Shelton have recently returned from Chicago where Dr. Shelton attended several Medical Clinics.

Mr. and Mrs. Jake Mayer of Hazel, Kentucky recently visited their son, Dr. J. N. Mayer and wife of Mayfield.

Congratulations to Dr. and Mrs. Frank Richardson, Maddox Apartments, on the birth of a son October 13, 1936.

HARDIN

The November meeting of the Hardin Medical Auxiliary was held at the home of the President, Mrs. R. T. Layman, Elizabethtown. Plans were made to help the free-bed patients at Hazelwood, again this year. Among other things, a Christmas Box will be sent to them. Our meeting commemorating Jane Todd Crawford will be held at the home of Mrs. Will Bethel, sewing for Hazelwood Sanatorium.

Miss Eliza Lancaster has submitted a biographical sketch of The Pioneer Doctors In The

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Young Family for the Historical Collections under the Chairmanship of Mrs. V. A. Stilley, Benton.

Mrs. Nora Hart Enlow, Elizabethtown one of our Associate members, has passed away since our last meeting.

A pair of ancient tooth forceps, once used by the late Dr. S. P. Hubbs in his practice in Colesburg, was presented to The Doctor's Shop, through the State Chairman, Mrs. Irvin Abell, at the Annual Meeting in Paducah.

Hardin County Auxiliary is assisting the sale of Christmas Seals for the support of Tuberculosis work.

A son was born in September to our Secretary, Mrs. Charles F. Long and Dr. Long. Congratulations!

JEFFERSON

Another Annual State Meeting has passed and many pleasant memories linger in the minds of those who went to Paducah from Jefferson County. Among these, the recognition of the work of our immediate Past-President, Mrs. Stephen C. McCoy, who was elected State President-Elect. She will be installed and take office at the 1937 Annual Meeting to be held in Berea.

The Study Class held its first meeting for this year, October 12, at the Brown Hotel. The subject for the year is: The Doctor In History. Mrs. George H. Ray gave a very interesting paper, In The Beginning. Mrs. J. Paul Keith entertainingly discussed Medical Current Events.

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At the second meeting, November 2, Mrs. John K. Freeman presented Temples Of Health and Mrs. R. E. Doughty, Current Events.

At the third meeting, December 7, Mrs. J. Duffy Hancock read a paper on Hippocrates and Mrs. L. Lyne Smith led the discussion on Medical Current Events. Miss Grace Stroud is the gracious and able Chairman who presides over the Study Class. She has started a Study Class Scrap Book which, already, is showing promise that this will prove to be a fruitful year.

The Sewing Unit has been quite active. They met at the home of Mrs. S. C. McCoy, October 13th; the home of Mrs. O. P. Miller, November 10th; at the home of Mrs. George C. Leachman, December 8th. A most enjoyable and worthwhile day was spent on each occasion. Mrs. John M. Keaney is Chairman of this active group.

A large box has been sent to the Frontier Nursing Service, Inc., at Hyden, again this year. We hope it will bring much joy and gladness and Christmas cheer to the little children of the mountains under the care of Mrs. Mary Breckinridge. Several of us went back to childhood days and dressed baby dolls and lady dolls and a few boy dolls all day, October 20th, at the home of Mrs. A. T. McCormack.

The box contained some remembrances for the little boys, the babies and the mothers, too. The list reads:

40	dolls	10	pair of gloves
20	pairs of stockings	5	pounds of candy
24	books—assorted	5	jacks sets
15	balls—assorted	5	jewsharps
10	harmonicas	2	strings of beads
10	Scout knives	6	scarfs
10	helmets—boys	2	sweaters
	For mothers and babies		
4	sheets, bed	12	baby shirts
8	pillow cases	27	diapers
4	gowns, mothers	2	baby blankets
12	baby gowns	4	baby jackets

We are all glad to know that Miss Belle Woodson, sister of Mrs. John C. Rogers, is improving after a serious illness.

A Benefit Card Party held at the Architects and Builders Club, the afternoon of September 29th, was sponsored by the Auxiliary and the proceeds given toward a Scholarship Fund.

Delicious cakes of many kinds,
Approved for flavor each combines—
Our baked things, palates will appease
And lagging appetites surely tease.

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Our Auxiliary reserved a table at the Goodwill Industries Luncheon held at the Woman's Club, October 19th. Those attending were Mesdames Stephen McCoy, Curt H. Krieger, Henry E. Tuley, Wm. H. Emrich, Charles Moore, A. T. McCormack, and Mrs. Fred Gnadinger, a guest.

Several of our members attended the Annual Meeting of the Woman's Auxiliary to the Southern Medical Association, held in Baltimore, November 17-20. Among those present were Mesdames D. Y. Keith, P. E. Blackerby, A. T. McCormack and Miss Grace Stroud. We are all happy to learn that Kentucky was greatly honored through the election of Mrs. Luther Bach, Bellevue, as President-Elect of the Southern Medical Auxiliary.

The regular Quarterly Luncheon followed a Business Meeting at the Brown Hotel on Monday, December 7th, Mrs. Curt H. Krieger, presiding. Reports of the various Committee Chairmen were made at the Business Meeting. At the luncheon, a musical and dancing program was given, under the direction of Mrs. J. C. Ray and announcements regarding the Benefit Concert for the Bronchoscopic Clinic at the Childrens' Free Hospital, by Rev. Frank O. Taafel, and an announcement concerning the Auxiliary's work in the Booth Sales of Christmas Seals. by Mrs. H. G. Terrell. Executive Secretary of the Louisville Tuberculosis Association.

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MERCER

Recent gifts to the Doctor's Shop are:

One very old wooden splint, presented by Miss Lena Bell, Superintendent, A. D. Price hospital.

One pair of glass suction cups, an old type of breast pumps, given by Mrs. J. B. Robards. These were used by her grandmother and other members of the family.

SAMSON COMMUNITY HOSPITAL DISTRICT

A regular meeting was held November 4th at Norris Nurses Home, Glasgow. Two or three inches of snow covered the ground, making a beautiful picture; but, keeping all but six members from venturing forth. However, those who braved the weather enjoyed an interesting meeting and a delicious luncheon served in front of a big log fire. Miss Black, new Superintendent of the Hospital, and Miss Taylor were guests at luncheon. Each member brought a gift for the Christmas box to be sent to Hazelwood. After luncheon, a short Business Meeting was held with our President, Mrs. C. C. Howard, Glasgow, presiding. Ways and means were discussed for placing more Tuberculosis literature in the schools. As an inducement for the children to study it, the Auxiliary awards a gift each year for the best essay on Tuberculosis. Plans were also made to sponsor a series of lectures on venereal diseases, in the near future.

Recently, the Auxiliary sponsored a play called SISSY, given by Junior High School students. This is a play recommended by the A. M. A. and tends to promote better Health Habits. It was a big success.

Miss Lydia Haase, former Superintendent of the Hospital and an Associate Member of the Auxiliary, has returned to her home in Pennsylvania.

Lois Howard, daughter of Dr. and Mrs. C. C. Howard, and Margaret Richards, daughter of Dr. and Mrs. Clifton Richards. are attending school at Ward-Belmont, Nashville, Tenn.

Mrs. A. E. Barnes, mother of Dr. E. A. Barnes, Albany, has sufficiently recovered to return to her home in Murl following several weeks at the Samson Community Hospital where she was a patient.

Miss Mildred Howard. oldest daughter of Dr. and Mrs. C. C. Howard is attending Zillendrie Dramatic School in Pittsburg.

Mrs. Ernest A. Barnes. Albany. attended the Annual Meeting of the Southern Medical Association at Baltimore.

Several members are busy soliciting subscriptions for Hygeia,

Tuberculosis

Mrs. Lucius Ernest Smith, Louisville, State Chairman

DANGER OF TREATING TUBERCULOSIS LIGHTLY

It is startling to us who are interested in the prevention and control of tuberculosis to find that it is still the leading cause of death in the active period of life. It is distressing to be told by leading authorities that one girl out of every four taken from us between the ages of fifteen and twenty-five years will be taken by tuberculosis. It is difficult for us to grasp the significance of this statement, and almost impossible for some of us to arouse ourselves to do anything out of the ordinary to help change the appalling death rate in our teen age and young adult groups.

A recent report of one of our southern institutions for the care of the tuberculous showed that thirty-seven high school boys and girls had entered the institution. They were all under twenty years of age. Of this group, twenty-two were far advanced, twelve were moderately advanced, and only three of the thirty-seven were early cases. All except the three early cases had tubercle germs in their sputum at the time they entered the institution. They were taken from the high schools of the state, and were in close contact with others, until they became ill. They were mingling with others, and there can be no doubt that they were spreading the dreaded infection among their associates during a long period of time.

We hear complaints from all parts of the Nation that there are very few early cases of tuberculosis coming into the hospitals for treatment. We are not attempting to fix the responsibility for this situation, but we do want to give our readers something to think about, because something must be done about it, if we hope to control our greatest enemy.

The most tragic thing about tuberculosis is, perhaps, our refusal to take it seriously. When we talk to high school boys and girls on the subject they feel that they are perfectly safe and that what happened to others can never happen to them. It is not uncommon to have parents resent an inference that their youngsters may have tuberculosis. The writer has in mind just such an incident. Two years ago a father and mother were rather sarcastic when it was suggested that their only daughter, then about sixteen, should have a tuberculin test, in order to be sure there was no infection lurking within her. The daughter felt well, but there was a characteristic listlessness about her that attracted the attention of the friend who offered the suggestion. About eighteen months later the daughter was suddenly stricken with a pulmonary hemorrhage. She was rushed to a sanatorium and placed in care of a specialist. All went well with her, and, in a few weeks time, she was able to return home, against the advice of her physician. The family refused to consider the condition as serious, and matters drifted along. Recently the daughter became acutely ill, hemorrhages followed, and the 'spot' on her lungs had developed into a cavity. Now the situation is not only serious, but tragic.

What a pity we do not always consider tuberculosis serious. Would it not be wise to educate our people to think of all tuberculosis as serious, even in its earliest stages? It would be well to keep in mind the fact that every one of the 86,400 people who died of tuberculosis in Kentucky during the last twenty-five years was, at one time, an early case of tuberculosis. Early cases can be cured.

Let us begin now to preach a new gospel of tuberculosis. Let us ask our physicians to help us make the public understand that all tuberculosis is serious. Of course, it is more serious as it advances, but it takes an early case to develop into an advanced case. When we consider them all serious, and help those who look to us for guidance to see this great enemy as it is, then it will not be so difficult to get parents

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and children to cooperate in the measures necessary for controlling tuberculosis.

The Kentucky Tuberculosis Association tells us that fifty-four years ago Dr. Robert Koch revealed enough of the epidemiology of tuberculosis to enable health agencies to gain control of the disease by correctly applying the knowledge that has been in our possession for more than half a century. Why have we allowed it to remain 'Public Enemy No. 1' through all these years? We help pay the cost of those who are wrecked by the wayside of life. We help take care of the sick, the widows and the orphans, and we should feel the responsibility of working shoulder to shoulder with our medical, health and educational leaders in awakening our people to the realization that tuberculosis is preventable, controllable and curable. The only safe attitude for us to take concerning the disease is to treat ALL TUBERCULOSIS AS SERIOUS.

I wish every reader of this article would get a copy of the December issue of the Readers Digest, turn to page 131 and read the short article entitled "Bill's Little Girl." Then sit down and think seriously about the responsibility our group has for changing the tragic situation that is so prevalent in Kentucky.

TB-LETS

YOU won't believe that health is wealth until you try to pay cash to buy it back.

Skin tests made upon school children will show whether the child has even the slightest infection from tuberculosis. There is then a chance for protection.

If you have tuberculosis and are not getting well, you should find out about the surgical method of keeping the sick lung at rest. Doctors call it Pneumothorax.

Rest is always good for tuberculosis. Even a tuberculous joint may be cured by rest.

Milk from tuberculous cows is one of the chief causes of tuberculosis in children. Pasteurize the milk.

Tuberculosis acquired from cattle is apt to affects the joints, bones and glands rather than the lungs.

THOSE EXACTING SCOTCHMEN!

An artist who was employed to retouch some paintings in an old church in Scotland rendered a bill for $67.30. The church trustees, however, required an itemized bill. The following was duly presented, audited, and paid:

Itemized Bill

Correcting Ten Commandments	$ 5.12
Renewing Heaven, adjusting star	7.14
Touching up purgatory and restoring lost souls	3.06
Brightening up the flames of Hell, putting new tails on the Devil, and doing several odd jobs for the damned	7.17
Putting new stone in David's sling, enlarging the head of Goliath	6.13
Mending the shirt of the prodigal son and cleaning his ear	3.39
Embellishing Pontius Pilate and putting new ribbon in his bonnet	3.02
Putting new tail on the rooster of St. Peter and mending his comb	2.20
Repluming and regilding left wing of Guardian Angel, washing the servant of the High Priest and putting carmine on his cheek	5.02
Taking the spots off the son of Tobias	10.30
Putting ear-rings in Sarah's ears	5.26
Decorating Noah's ark and putting head on Shem	4.31
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—Anonymous.

God nothing does, nor suffers to be done,
But thou wouldst do thyself if thou couldst see
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A CORRECTION

Biographical Sketch, Dr. William Craig Galt

(Page 127, line 13, column 2, October, 1936 issue).

Dr. William Henry Galt, son of Dr. Norbonne Galt, studied medicine in Louisville and became City Health Officer in 1880.* He continued in this position until the time of his death in 1893. John Galt, only son of Dr. William Henry Galt, was also educated as a physician, having studied at the University of Louisville. Dr. John Galt never practiced but died at an early age in Texas. His sister, Miss Ellen Pope Galt, still resides in Louisville.

*Caron's Louisville Directory, 1883-1894.

ARCHIVES

Miss Grace Stroud, Louisville, State Chairman

As I understand, the duty of an Archives Chairman is to keep a full and accurate record of the activities of the organization which she serves. But that record will not be full and accurate if the activities of each and every one of the units of that organization are not represented. The fact that some of the units have only a few members makes not a particle of difference for the activities of the smallest one are just as important and just as necessary to the Archives as those of the largest.

So it is my hope that each of the fourteen Auxiliaries comprising our State organization will contribute a full account of its work. Whether your Auxiliary is small or large will you not help to make our archives complete for the year 1936-37? Your cooperation is needed. Send all communications to Miss Grace Stroud, 424 East Lee Street, Louisville.

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Louisville Public City Library with Statue of Abraham Lincoln Appearing as if Standing on Water
Louisville, Ky., 1937 Flood ©

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LINCOLN STATUE ABOVE WATER

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APRIL, 1937

Our Children

MAY BE IMMUNIZED AGAINST MOST OF THE CONTAGIOUS DISEASES OF CHILDHOOD THROUGH CO-OPERATION WITH THE DEPARTMENT OF HEALTH IN THEIR CAMPAIGN FOR DISEASE PREVENTION.

Diphtheria, Small-pox and Scarlet Fever, have caused intense suffering and in many instances death. The complications following these diseases have been responsible for many unsound bodies. Schools have been closed and social activities interfered with because of the sickness associated with these diseases. For many years Small-pox has been kept under control where vaccination has been regularly practiced. In recent years Diphtheria Toxoid, first in its crude state and later when treated with alum, has proven of inestimable value in the prevention and control of Diphtheria. Scarlet Fever, one of the most contagious of all diseases of childhood may now be prevented and controlled through immunization with Scarlet Fever Toxin. Attempts are being made to control other diseases which menace our children. Pertussis Vaccine is believed to be reducing the incidence of Whooping Cough, and since its use is not harmful it is believed statistics will soon prove the worthiness of the product. In many instances the disease is prevented, and in other instances the paroxysms and general symptoms of the disease modified.

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PRESIDENT'S MESSAGE

Mrs. E. A. Barnes, Albany.

ARE WE DOING OUR BEST?

I want to take this opportunity to thank a number of our Auxiliaries for the splendid work already accomplished. It seems that Tuberculosis and Venereal lectures are being stressed by a majority of the County Auxiliaries.

An essay contest is being sponsored again in the High Schools of the State by the Samson Community Auxiliary. The subject is Tuberculosis. One doctor's wife has sold five Hygeia Subscriptions. We congratulate Mrs. Ray of Tompkinsville for this achievement. If each of us sold one, what an accomplishment it would be!

We are one of the first State Auxiliaries to do Venereal work. May we continue the good fight for purer manhood and womanhood in this State. Right now we are laying a substantial foundation for Tuberculosis work in this Commonwealth. Let us not slacken the drive; but continue to fight this arch enemy of the human race.

And did you realize that Doctors' Day will soon be here again? I wonder what plans we have for honoring our great Kentuckian, Dr. Joseph N. McCormack? The short biography which has been written by his wife is not ready for distribution; due to delays caused by the flood. It will of course be something to look forward to. On page 161, March 1934 issue, Kentucky Medical Journal, Dr. D. P. Hall, Louisville, gives a brief biographical sketch and picture.

I want the Flood sufferers out there in distress to know that I feel for them and believe that I am expressing the sentiments of the entire Auxiliary organization when I say "Our hearts bleed for you."

Paducah, you suffered and lost much when submerged. But—you will rise and re-build better than ever. We have great hopes for you and are expecting much from you. You will of course continue the fine Auxiliary work you had so successfully begun. What if it is an uphill job? We cannot see the other side of a mountain, nor vision what is over there until we have climbed to the summit. Your splendid leaders will lead you to the summit.

In conclusion, Auxiliary-Members-In-General, let us pledge ourselves to the unfinished work that is before us. Let us keep forever alive the vital spirit of this organization. Let us put our shoulders to the wheel and pull together; we must gain new grounds; we must make new discoveries; we must build a bigger and stronger organization; we must do bigger and nobler things for the sake of our husbands and their chosen profession. These things can be accomplished only in one way—We must pull together.

-:- EDITORIALS -:-

THOUGHTFUL WOMEN ACTIVE

Though there has been nothing spectacular in the quiet, persistent efforts of the social hygiene movement in Louisville and Kentucky during the past several years, interest has nevertheless gained steadily. The present social hygiene and venereal disease control campaign under the sponsorship of the U. S. Public Health Service, not only definitely proves, but particularly emphasizes the importance of proper sex education.

For generations a prudishly rigid censorship against any rational discussion of matters of sex has existed. Recently, however, evidence has been rapidly accumulating that the public wants to know the truth about many things pertaining to social hygiene.

That the thinking women of the country have given this subject serious thought is evidenced by the educational program that has been launched by the General Federation of Women's Clubs. Social hygiene and venereal disease control will be the next objective of that organization's Health Conservation program, under the leadership of Mrs. Carl W. Illig, Jr., of Massachusetts, chairman of the Division of Public Health.

The National Council of Women also recently adopted a clear-cut platform of venereal disease control.

People must be taught that ignorance of social hygiene and the control of venereal disease constitutes a major threat to public health. There must be more open-minded willingness on the part of the public, particularly women, to accept the fact that social hygiene and sex education have an important place in every public health program.

The educational phase of social hygiene aims to provide ample and wholesome community recreation for the adult as well as the child; to prepare youth for marriage; to provide council for the married; and make sex character building as much the education of every child as any other form of education.

The claim of youth today for some sort of instruction in the elementary facts of sex is now established. The youth of former days seldom had much, if any, guidance in matters of sex from their parents, and sources of guidance outside the family circle were in former days, as is the case today, nearly always bad.

Advocates of social hygiene and the home teaching of sex have been encouraged to renewed efforts by the changing attitudes of the press and radio toward the use of their facilities for social hygiene education.

The Social Hygiene Division of the State Department of Health of Kentucky, will be glad to supply detailed information on the social hygiene phase of this nation-wide campaign on the part of the U. S. Public Health Service, and the women of Kentucky are confidently expected to demonstrate a receptive and helpful attitude toward this movement, whose success means so much to the home, the community and generations yet to come.

M. F.

EXPERIENCE IS A GREAT TEACHER

This issue of the Woman's Auxiliary Section of the Kentucky Medical Journal was delayed from regular publication in April until May because of the Flood and its consequences. We regret this delay. We trust that our generous Advertisers, as well as our Readers, will understand the situation and kindly make due allowance, however.

Most of our columns, in this Quarterly, are given over to Flood Experiences by Auxiliary members and their families. This is for a purpose—the very real purpose that we may profit from this experience.

Catastrophies bring confusion. Yet, under no circumstances is order more essential, than during a catastrophe. The Flood was no exception. Bewilderment and disorder followed skepticism as to the reality that the Flood was, actually, upon us. We were as totally unprepared, when caught by the relentless, steadily rising tide, as was King Canute of old. And—some of our early efforts to cope with the situation were quite as futile as were the vain gestures of the flattering courtiers of King Canute.

In order that some of the lessons learned, during our disaster, may not be lost entirely, but serve, rather, as stepping stones to better ways, several Auxiliary members have taken the time, even in these busy, hectic, housecleaning, home-restoration days, to write their experiences and impressions. We publish them with pride.

It was hoped that all Auxiliary members would join in this undertaking. The same type of request, post card, was sent to each County President and to all State Officers and Chairmen. Our grateful appreciation and thanks for these fine responses is herewith acknowledged. All responses, to date, are published in this issue.

No two persons seemed to have quite the same experience. Each is different. But, on one point, all the contributors to this record of the Flood were unanimous. When asked to write her experience and impressions for publication in the Quarterly, each woman, without exception, said: "Oh! I didn't do anything worth writing about. There was nothing dramatic in anything I did."

Perhaps not. But—what is dramatic? Is it not something depicting a story of human life? Is not drama, human life, made up of little incidents?

These stories we leave with the Reader, believing that in them, singly, and together, intimate views of the recent calamity will be found depicting human life as it weathered the Flood.

CAMPBELL-KENTON HOSPITALS

Extracts from letter of Mrs. Luther Bach, Bellevue

I think your idea of making a Flood Number is an excellent one. Guess most our doctors and their families were busy either doing Red Cross work, helping to take care of flood Refugees, or something of the kind. We'll talk that over and let you know.

Our hospitals were all flooded (the basements so that the heat was cut off). St. Elizabeth made temporary arrangements for heat by connecting with steam rollers in the street.

Booth Hospital had just reopened when the Flood came. So they cared for Flood Refugees, there, but did not try to take patients until after ehe water receded and their building was cleaned up.

Water was three feet in Speers Hospital, and they had to evacuate more than a hundred patients. They made an emergency hospital out of the Dayton High School building. One of the Bellevue school buildings was used as hospital for contagious diseases.

You see, we were cut off from Cincinnati, Covington, and Newport except for a shuttle train that operated over the C. & O. bridge and —We didn't even have that for a few days.

My husband worked from 9:30 a. m. till 6:00 p. m., evacuating patients from Speers, without anything to eat or any rest whatever. You see he is the type to take all responsibility. But during these last several months, he is supposed to REST a lot. This is how he does it! He has run himself to death nearly ever since the Flood.

Our technician is "off the job" this week nursing a sick father, and so far I have got no help for my housework, either, so I'm going around in circles, too.

My help in my part of the house got homesick and left me during the Flood.

Very few of our doctors lived in the flooded sections so far as I know, but poor Mrs. B. K. Menefee's house was almost covered I understand. She has been with her daughter in Crittenden, Kentucky.

From Mrs. Charles Baron, Latonia.

You asked what we and our doctors did about the Flood. I am sure I could not give an accurate report, beyond saying that both Dr. H. C. White County Health Officer, and Dr. John Todd in the Clinic, had a tremendous amount of work. The Red Cross headquarters ordered all emergency calls for medical attention in Kenton County to go through the Public Health Clinic, where a voluntary list of doctors was kept busy. Dr. Baron and Dr. Ralf, the county and city physicians were constantly busy, but because of no telephone service, were pretty much confined to home where people could find them. At first, Dr. Ralf took care of one Red Cross hospital, and Dr. Air had charge in Ludlow. Then, when the hospital was moved into Dr. Baron's district, he visited there daily.

However, we were pretty calm up here. I do not believe Northern Kentucky was as badly hit as people thought. Anyway, there was a lot too much excitement, but no panic.

CARRYING BIRD CAGE ON RAFT

Mrs. B. K. Menefee, Covington.

Your card asking for my Flood experience reached me yesterday (February 25) here in Gardner (Illinois) where I am a Refugee with my daughter and her family.

I was with my other daughter, Marie, at her home in Crittenden for almost a month. Then, I came here last Monday for an indefinite stay as it will be some time before I can go back into my home.

The water came to the top of the windows and door casings on the first floor. But, upstairs is all safe and dry. I had moved all that I could upstairs, but I just could not get help to move the large pieces. So, I lost the davenport, buffet, dining table, desk and kitchen cabinet. Did take all the contents upstairs and saved those, however.

Furniture that was under water just falls to pieces. So I have thrown the damaged things out, since, to be carted away. I must lay new floors and baseboards and have new doors hung We cleaned out the worst of the mud but must wait to repair until after the water dries out.

My furnace was not hurt and we have a

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man keeping fire in the house every day now.

You cannot imagine what things are like unless you see them, yourself. And—the smell is awful! It will be quite a while before I know what all I have lost as I had so much stored in the basement.

You would have laughed if you had seen me leaving home!

We were there until the water was nearly up to the porch. Worked all night, Thursday, January 21st. Rod and Marie came for me. They waded in in rubber boots at midnight. We began calling for a boat at 5:00 A. M., but at 8:00 A. M., no one had come for us. Then Rod thought of some old garage doors I had. He waded, waist deep, to get them; lashed them together with electric cords and a short length of rope. Then, pushed it, this raft, to the porch and I stepped on and seated myself on a footstool, carrying the bird-cage while he pushed me up Wallace Avenue to dry ground and the car. Then, he had to go back for Marie.

I was afraid he would get sick. But—we went to the home of my niece where he had a hot bath and went to bed between blankets for a time. Later, we drove to their home in Crittenden. He suffered no ill results, I am thankful to say.

I did not do much for others except gather clothes and give some money to the Red Cross. Every one responded so well.

My little grandson got his bank and counted his money. He had $1.15. He asked his daddy to take the Dollar to the Red Cross for him. This meant a lot. He has been saving his pennies to buy a little wagon.

I thought of you so much and wondered how you kept warm and if you had enough to eat. Conditions were so bad in Louisville. We kept the radio on all the time. The Peter Guntermann family must have lost everything. As Refugees, they were at the George Peaks, so, with friends.

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AS I LIVED THROUGH THE FLOOD

Mrs. Wm. H. Enrich.

A pall of smoke and fog hung over Louisville for weeks; only occasionally the sunlight filtered through. Many nights too, were starless and dark and the smoke-filled atmosphere was difficult to breathe. Our mayor, health and welfare directors and civic bodies set to work to rid the community of the smoke evil; "smog" the newspapers called it.

Then came the rain. After a week of it, streets, pavements and roofs were washed clean and new grass was showing on the lawns, and skies grew clearer in spite of heavy rain clouds. But it rained for two weeks more; torrents rushing down from the Pennsylvania, West Virginia and Kentucky mountains poured a deluge of muddy water into the Ohio River flooding thousands of miles of valley land.

My husband and I were planning to leave on January 23rd for a visit to our son in New York City. I was quite busy putting my house in order, laying in an ample food supply and attending to our travelling needs. Much too busy to read the newspapers or listen to the radio, so I missed the very early flood warnings. In a drenching rain, I went to the "Follow Your Dollar" exhibit at the Armory on Wednesday, January 20th, where two little fellows told about being washed out of their home on the Point. It was a common event for "Pointers" to migrate to the high spots when highwater came. They seemed to anticipate an annual freshet. But, on Thursday, when a ticket agent for the B. and O. failed to deliver our tickets, I smelled a rat. It took more than a freshet to stop a railroad train.

On the front page of the Friday morning's Courier-Journal was spread the warning, "Record Flood May Cut Electricity." So our first Flood preparation was to buy lamps, kerosene and candles; already these were scarce items in our neighborhood. At 2 o'clock, when my husband returned from St. Anthoney's Hospital, having spent four hours in detouring, he said we were practically cut off from the Highlands by the spreading waters of Beargrass Creek; that there was a run on grocery stores and meat markets and a food shortage was predicted. To the market I went and brought back more food

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and fruit juices; enough for an army, some thought.

Headlines in the morning paper of Saturday, January 23, "People marooned in West End Homes" put my torpid brain to working. An aunt, two uncles and a number of friends living in the West End were promptly telephoned. Yes, water was filling the streets; furnace fires were out. "We are staying as long as gas and water, food and light hold out," was the answer. At eight that night, just as the water lapped their front door, our friends on Fortieth and River Park Drive left in a boat and came to us. They were our guests, please, not Refugees, for ten weeks. We worked against time all that day. When the cooking, baking, boiling, scrubbing, dusting, mending and laundering was done, I rested in the living-room for a brief moment. Then I realized what a tremendous job Noah must have had preparing his Ark for the Flood.

Others were busy answering telephone and door-bell; "No end of people wanted typhoid shots" said our nurse. We have no vaccine and there was no one to send for it. My daughter had not returned from the Relief Station; nor my son from Jeffersonville where he filled and piled sand-bags at the railroad tracks. This was my chance; so accompanied by my husband's office nurse, I started to the City Hall for the vaccine. There was neither trolley nor taxicab service; we found it difficult walking, the sidewalks were slippery with sleet and snow. The streets were so dark and deserted save for men in rubber boots who passed us hurriedly.

At Second and York, I had my first surprise. Looking toward Third Street, I saw the Louisville Auto Club inundated. Sewer water gushed into the street at Second and Broadway. At Third, a lantern hung on a trestle; its red light cast weird shadows on the dark watery street warning southgoing motorists to detour; and snow resembling lifeless forms floating in the street, looked ghostly in the half dark. Fourth Street was wet and slippery; pedestrians were few; men in rubber boots gathered about pumps and worked with gasoline engines chugging for dear life as water spouted from basements and cellars. Other men and boys piled sandbags on the sidewalk at doorways, working fast and silently in the dim light. No electric signs brightened our path; the few lights left burning were dim. It was a strange and sorry Fourth Street, slippery, sloppy and snow sodden. The shop windows too, looked strange. In one was a sign, "A Fresh Shipment of Rubber Boots," another had "Lamps and candles for Sale."

The City Hall was a mecca for flood workers, truck drivers and motor boat pilots requesting gasoline permits, and Refugees seeking a dry haven. Outside, some trucks stood by awaiting

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orders while others unloaded their cargo of cold, shivering women and children.

As fast as our wet feet would carry us, we hurried home with the vaccine where we joined my united family, gathered about the radio listening in the candle light to the strangest program ever broadcast from our local stations. All night someone listened, until the Sunday morning paper came filled with printed news and pictures of the biggest Flood in history.

In that early Sunday morning, in a driving rain, folks came for their first typhoid shots. Automobiles, loaded with men, women and children, rainsoaked blankets and quilts, beds, furniture, bundles and suitcases, cats and dogs and bird cages passed in a steady stream southward. This kept up all day. These stricken people made us cognizant of our own comfort and safety. Some of our neighbors drove away with suitcases and bedding, but it never occurred to me that they too were leaving for higher ground, I felt so safe and far from flood waters. Highland friends and relatives telephoned kind invitations to share their homes, but none of us had any thought of leaving. On the contrary, I tried to telephone Dr. and Mrs. McCormack to come to us, for I felt that they would soon be heatless, lightless, waterless, literally bottled up in their eleventh floor apartment. Their line was constantly busy and soon our telephone was dead.

So I watched the slow procession from the window again, until the afternoon faded into the gloom of that never to be forgotten night. What had halted the procession? It was almost incredible that this all day exodus should stop so suddenly. My son, returning at the time from a walk (with many detours) to my uncle's house at 22nd and Main, gave us a brief picture of deep water rolling out Second to York and down Broadway as far as he could see. His army boots couldn't keep the water out, so after supplying him dry clothing, socks and shoes, I went to do some scouting myself and had the biggest surprise of all the Flood. There it was, already knee-deep; a street full of brown water pouring down Breckenridge, pushing snow and drifting debris in Second to our domicile. In that moment I realized the discomfort and anxiety these stricken people had endured in leaving their homes to the ravages of the Flood. What call was that from the radio? "Send a boat to 900 block Second Street." Now there was more work to be done in our Ark. Everyone helped in carrying rugs, lamps and small furniture to the second floor; with one ear to the radio as we worked.

"Save electric current! Save water!"—"Send a boat to 800 block on Third Street." What a persistent Flood this was! We listened and wondered until the current went off at 11:40 p. m., when by candlelight, we climbed the steps to bed. Some of us snatched a few winks of restless sleep between the back firing of water soaked engines and the rumbling of heavy trucks passing through our alley.

Before the family gathered for breakfast, on Monday, January 25th, I had a written schedule of work for each one of us, and menus providing a well balanced diet to keep up our spirit as well as our strength of body. All day, people came to us; not every one came for medical advice or surgical care. One woman, upon finding her telephone dead and her gas low, came to call the Gas Company to increase the gas pressure. Another wanted to phone the milk man and scold him for failure to deliver her milk. One little old lady dressed in her night gown came with comb and brush and a jar of pineapple juice, determined to stay with us, where doctor and nurse were handy. Coast Guardsmen from the Great Lakes and the New England Sea Coast, college students from Duke University and Purdue, an engineer from Connecticut, old men and boys came for various reasons. No doubt the hot roast beef sandwishes and hot coffee allured some of them, and the warm grate fire in the reception room attracted others.

Some of the evicted people wept as they told of leaving home in a boat; others were distressed about aged parents and small children. A little girl sobbed for her "newest doll." A young bride said her husband left to pilot a motor boat in rescue work. She was alone save

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for her dog, when water came under the door. Two men in a canoe passed on their "last trip," and picked them up. She wept as she told how awful she felt about leaving her wedding gifts, bridal finery to mildew and ruin, while her husband was possibly helping to save just such things for other people. I wanted to comfort them all; to help to recapture some of the peace and happiness they enjoyed just one month ago.

Men in rubber boots carried many of these people across the deep water to our front gate, others came in boats. Boats were chained to our fence waiting to be called to transport passengers and workers. One took my husband on an emergency call; at Third and Breckenridge, the little craft was caught in the cross current and capsized. I'd have given a fortune to have seen this aquatic stunt. I saw the climax; a tractor deposited my husband at our side gate, wet and cold, and a bit chagrined. We chuckled too, when the rubber boot man carried him **piggy back** to the boats with the tail of his overcoat dragging in water. For out-door diversion, we went to the front gate where neighbors gathered to exchange greetings and swap Flood yarns. An Episcopal minister, at the moment enjoying it all, heard someone tell that Baptist orphans were moved to the Baptist Hospital. "Well," he said, seriously, "and I thought Baptists liked a lot of water." Just then a truck plowed through and caused waves to lap our sidewalk; the cleric jumped to a higher step remarking, "You see, I like only to be sprinkled."

In the second watch of the night a kindly Irishman, swinging a red lantern stood at the water's edge and warned motorists of the deep water at Second and Breckenridge. It was 3 a. m. Tuesday, January 26th when my husband and I invited him to have hot coffee and eggs and toast. He pictured such awful suffering and deprivation at the Armory that I resolved to go there as soon as daylight came. I thought I heard water running through our side and back alleys; I was right, there it was, two feet deep and swift as most currents and only a dozen feet from my door. Out front too, there was plenty of current; gates, steps, parts of furniture, ash-cans were washed up on the sidewalk for the water met at our front gate. Thank God the sun was shining, though a little weak; it was at least a promise of fair weather. I forgot the Armory. It was colder now in spite of a rise in temperature, so I unpacked heavy underwear, sweaters and wool socks which my daughter and I had gathered for the Red Cross, and used them ourselves. In spite of all his stoking, the janitor could not keep the house quite warm enough. "It's on," someone shouted, "scram for the buckets, pitchers and kettles." This was the first call to the faucets; twice each day, the men, and girls too sometimes, filled the three bath-tubs on second and third floors. Then started the boiling; we boiled water for Halleck Hall, for our neighbors without gas, as well as for ourselves.

Trucks and tractors were passing now with food and someone tossed several cans of vegetable soup into our yard. Immediately there followed another truck; a very hilarious soldier threw in a box of baking soda, calling out, "Take it lady, you'll need it after eating that trash." The Red Cross sent us more typhoid vaccine and some emergency supplies, another lamp and kerosene, for this was now an official relief station. And I became the official filler-in. I was promoted. From then on, I held lamps and candles while wounds were sutured; mopped up blood from the front gate to the operating table; wiped it from doorknobs and chairbacks. One young lady cut a deep gash in her wrist while holding a milk bottle as boiling water was poured into it. Another was burned with hot grease. An old lady fractured an arm when she fell down a dark stairway; a boy came with a nail in his foot, others were injured in an explosion. These were night accidents, I helped at night, for in the day time I managed the Ark.

They called me the night watchman for I slept lightly. At three o'clock Wednesday morning January 27th, I jumped from my bed when

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I smelled smoke. There in the west, the sky was red from threatening flames. My guess was "Callahan's Paint and Varnish Works," which was confirmed later by a passing boatman. The air was filled with odor of gasoline, "A conflagration like the one in Cincinnati would indeed be tragic." In the light of the full moon, I could also see that the water had not risen in the night. Thank God, the crest was reached. Life in the Ark was still interesting though not so thrilling. Our evenings were more restful; we played the piano with fingers more steady and even attempted to sing. We now played games, Monopoly and Bingo. When anyone won at Bingo, a peanut or chocolate covered cherry was awarded the winner; we were lucky to have a supply of both when the Flood came. The grate fire was dying out and the house was quite cold so we went to bed. At two o'clock Thursday morning, January 28th, I heard the whistle of a locomotive. From my window I saw a rocket flare and immediately the locomotive seemed to answer. I was told by a boatman that I had witnessed a rescue boat contacting a train. Trains were able to carry Refugees to inland towns now.

As the water left our sidewalk on Thursday afternoon, more people came for typhoid vaccine. Many of them were without fire for heating or cooking; they enjoyed stretching out in front of our warm grate fire and seemed inclined to linger there.

Only a few of our neighbors were able to have any gas at all. The pressure here was quite low now, so my janitor tried his skill at building a fire place of bricks and stove grates under our back porch. He kept the fire going while the cook fried flapjacks, bacon and eggs and even perked coffee fit for an Epicure. One of our menfolk had bought a whole "Bologna" in that first rush for food on Saturday; I put it in a dutch oven and baked it on the out door fireplace, and this was the treat of the Flood. I think the boatmen must have had a whiff of it cooking, for they came for sandwiches and hot coffee while it was still hot. Thursday night we gathered at the dining table to read our first copy of the Courier-Journal. It was a day late and quite torn and worn, but it brought news of the Flood and a list of our separated friends. The Flood stage was lower and people in Jeffersonville and the West End turned to thoughts of rehabilitation, said the Thursday and Friday morning's Courier-Journal of Lexington and Louisville. To us this seemed a bit premature, but "Hope springs eternal in the human breast."

On Saturday morning, January 30th, I walked out for my first survey of the recent debacle. It seemed to me that the end was still in the distance. I saw a cabin cruiser pass through narrow York Street at Second and by the time I had reached First and Broadway, it was steaming up Broadway accompanied by other power boats. What a sight to behold, a lake cruiser plying up Broadway! On Wednesday, February 3rd, our friends obtained a pass to go to their home in the West End. The mud was still thick and water was standing in the upheaved streets, when I rode with them on Friday following. Slush marks streaked fences, copings, trees and buildings with an ineffaceable mixture of grease and mud; automobiles submerged in the flood, were coated with it too. Homes and stores were forsaken and streets deserted. At my friend's apartment, we jimmied the doors before we could enter, they were swollen tight. Inside it was difficult to keep afoot; one could slip so easily in the slimy mess. The narrow hardwood strips were lying everywhere; dilapidated tables, chairs, lamps, mirrors, kitchen utensils and putrid food were strewn in confusion in the living room. On the bathroom floor was a ten inch fish of the skipjack variety. I have never seen such waste and ruin.

When I recall the great kindness, charity and consideration and generosity shown by all people during the Flood, I wonder if Floods are not of Divine origin. It seemed to do more to the hearts of men than eloquent sermons. Why—I actually met my next door neighbor, borrowed flatirons from the darkies in our alley and exchanged boiled water for the loan! Parodoxical as it may seem, I am glad I lived during a flood.

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HELP FROM CLINTON COUNTY'S HILLS

Mrs. E. A. Barnes, Albany.

(Dr. Barnes is a regular country doctor in the mountains of Kentucky. Mrs. Barnes works with him, as his nurse, in all his practice.—Ed. Note.)

Dr. Barnes and I decided rather hurriedy one night that we were needed in Louisville. The continuous radio broadcast of death and disaster had slowly had its effect upon us. Then, too, the day before we departed for the flooded area, the citizenship of our little town of 800 had gathered in the courthouse for the purpose of doing something to help suffering Kentuckians. At that mass meeting over, seven hundred dollars in cash was raised, six hundred of which was wired directly to the Red Cross in Louisville. At this meeting two trucks were donated to haul clothing and food. Both were loaded the following day and driven to Louisville. Two mechanics pledged their services, together with an outboard motor.

We left Albany early Monday evening, January 25, in a car driven by Mr. Kenneth Wisdom, manager of the Ford Motor Co. of this city, Albany. His car was equipped with a radio, which proved indispensable. We left home wearing leather boots, and carrying medicine bags filled with medicine. Dr. Barnes also was carrying one donation of $100 from the Albany Masonic Lodge.

For us, going to Louisville to work with flood Refugees was not much different from starting out to some lonely hovel at the head of a mountain ravine. In either instance the urge to save a life, or ease one's pain is the propelling motive. We stayed on flood duty for ten days.

Before leaving Albany we telephoned Dr. McCormack and were instructed by him to go to Mrs. Lavinia M. Carns, 2324 Gladstone Avenue, Louisville, as a place to live and then work from there. She did everything posssible to make us comfortable. She was so considerate of our needs while off duty. Throughout the Flood, Dr. Barnes and I worked together, as physician and nurse, just as we always do at home.

From Rugby Medical Center we were sent to Beuchel. by orders from Dr. Fred Caudill. At Beuchel we relieved Dr. C. A. Arnold. Our first task there was to organize a Temporary Hospital in the Hikes Graded School. The top floor was converted into a ward for col-

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ored people, and one for whites. The first floor of the building was used as a vaccinating center. The basement of the building was provided with cots, and served as clearing house for Refugees until they could be sent out to temporary quarters. At various intervals cars would call for Refugees, and all seemed glad to leave. The predominating thought in each mind seemed to be "Just any place to get away from here."

The short talk I had with many, proved to me that the modern version of the story of Evangeline was, literally, being enacted here. Fathers and mothers were separated from their children; one wife was lost from her husband. Some were mixed in the cars and trains. One six-year old child was lost from both parents.

The strain was too great for some. One Medical Student who was helping us became a nervous wreck. His folks were in the Flood and lack of the much needed rest from night duty proved too much for him.

We were in charge of the Newburg School with about 500 negroes and Masonic Home with about 200. The ill were brought in to the Hikes Hospital for care and treatment. One afternoon two nurses and I left Hikes School for the Southern Depot where sixty-five were vaccinated and one infected finger was treated. To reach the depot, we were transported in trucks, cars and motor boats. While there, two men had overturned their motor boats and were treated, also.. On our way back we stopped at the City Hall where I had a conversation with Louisville's Great Mayor. After that, I felt like going out and doing more to try to relieve pain and misery. While we were standing in front of the City Hall waiting for our car, men would ask us for aspirin tablets and eat them as if they were candy.

The next day, January 27, Dr. Bass requested that we see some patients for him when we were in the restricted area. That was some assignment! Doctor Barnes and I started by motor boat. Then by truck to 6th Street. There we found trouble as three motor boats had just overturned and no one would attempt it that night as the water was too swift. So, we started to the Brown Hotel and after several hours we arrived there and found Mrs. McCormack on the fourth floor cooking and keeping warm with a one oil heater. She offered me Dr. McCormack's supper as he was attending a conference supper at City Hall. I could not accept her gracious offer. They were short of food and Mrs. Carns had plenty awaiting our return. But I did allow her to prepare me a cup of Cambric Tea—hot water with milk and sugar. It was so refreshing.

The next day Dr. Siniai and his force came out to Beuchel and we knew we could be used for boat duty and go where more needed. We left the City Hall in company of a guide. I nicknamed him Fatso. That first night out, I looked at my watch and remarked that it was exactly 12 o'clock. Fatso said. "Nurse, does your watch have the days on it also?" he had been on duty four days. Some patients were very pathetic. Many hysterical. Unable to get their own doctor, they called several physicians in succession. And — eventually, several responded. Confusion! They needed fuel; some had dogs in bed with them to keep them warm. One sick child had its mother's coat around it to keep warm and the mother was ill. At 5 A. M. we came home to Mrs. Carns and did get three hours sleep. We came in our hip boots, tired, exhausted, wet and cold. It was not easy to get to sleep as the tragedy of the Flood was constantly before me like a threatening hand of death. Its dark shadow shut out all light. I saw the Flood waters in their anger, more destructive than machine guns and cannons. I saw this relentless monster as a heartless beast accepting no favors, granting no reprives. Old age with feeble step, childhood in its innocence, and those in beds of affliction were the ones suffering most.

To go to help those in bonds meant to become bound for the time being. It meant the loss of practice for our doctors, and nurses. It meant loss of sleep, scant rations, exposure, hardship and suffering.

Dr. Barnes and I felt that since our hearts were already out there with the suffering, we should be there in person, to do our part to relieve some pain. I believe this was the feeling of every one affiliated with the Medical Profes-

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sion, in this State and adjoining States. Then, I caught a vision of how our Medical Profession had been as an Angel of Mercy and a Blessing to those in Bonds. May the destructive reach of the Flood waters never again visit our State and Nation. May the sufferers of this Flood look to the future with eyes undimmed, courage undaunted, hope unequaled. Let us, all together with courage build a better, bigger Louisville. Yes,—a better, bigger—Kentucky.

CITY OF LOUISVILLE
Kentucky
Executive Department

February 15, 1937.

Mrs. E. A. Barnes
Albany, Kentucky.

My dear Mrs. Barnes:

Now that I have a breathing space, I want to thank you again for all the help which you gave us during the flood. It was exceedingly kind of you to come to Louisville personally and do all that you did and we also appreciate immensely your very generous contribution to our flood relief fund.

Little did I think when we were on the train coming from Washington. (November, 1936) that the next time I saw you would be under such conditions. I hope you will extend to all of those whom you know who helped us our appreciation. It will be impossible for me personally to thank everyone for all they have done for us.

With kindest regards, I am
Very truly yours,

Neville Miller, Mayor.

LIGHTS FOR MARINE HOSPITAL!

Mrs. Curt H. Krieger, Louisville.

Now that the Flood of 1937 is history, our own experience seems insignificant as compared with so many whose home, business or office was inundated. Our home and office is in a section known as the Highlands. And, how aptly this section is named! We shared our home with friends and, you might say, overnight our family increased from two to nine people. Our dog, even, had a "refugee" friend to stay with her!

One night when doctor returned from his work at the Emergency Hospital we were listening to the radio and heard the announcement that our city would soon be without electricity and that the stores were being quickly depleted by eager buyers of lamps, candles and flashlight batteries. He recalled a boyhood experiment and called the station and suggested they announce that the life of a flashlight battery could be restored for several hours by punching several holes in the top of the battery and pouring in a strong solution of Sal Ammoniac. Then another urgent message "Unless the generator is received by this station soon we will have to go off the air."

We then thought of the plans we had made for a trip this Spring in a Trailer and the small gasoline driven generator which would deliver sufficient voltage for ten 25 watt globes, ordered to supply us with electricity if we wanted to camp in the wilds, or out of the beaten paths, and yet enjoy the comfort and light that only electricity affords. If we could only get this generator to one of the hospitals! A telegram was immediately sent "Send generator by express from nearest depot. Needed for hospital in flooded area. Reply." Twenty-four hours later and no answer. He was then informed by the telegraph company—"We have thousands of undelivered telegrams. Don't think there is a chance of finding one for you." Doctor got out of patience and spoke rather sharply to the operator. She replied: "Please don't bawl me out any more. This has been going on for hours. A little more and I'll

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blow up and scream." "O. K. Miss, and pardon me. Guess your work has been just as nerve racking as mine. Thanks."

Then a new inspiration—WHAS! They'll get word through and an answer! It was about 3:00 A. M. when doctor called WHAS and a very tired voice answered, "Well?" After explaining the importance of the message this operator staying on the job replied: "O. K. Doc, it's against the rules but we'll try."

Next morning, this welcome reply: "Shipped from Chicago two days ago."

Again disappointment: All express offices closed. Flood Emergency Council advised calling K. & I., etc.

Once more, doctor summoning all his reserve courage called WHAS explaining that the generator was some where near Louisville and their broadcast might help securing it. "It's against the Federal Regulations, but we'll try."

Fifteen minutes later a call from New Albany. "This is the Railway Express Agent. I'll go out and try to find that shipment."

The following morning, early, it was delivered to his office and that night was in operation at the U. S. Marine Hospital.

We, like many others, while not in the Flood experienced great anxiety over the safety of friends and members of our family who were less fortunate. My parents, whose home is in Jeffersonville, remembering the "big" flood of 1884 and using that flood as a yardstick, were confident the river could not possibly get high enough to reach their home. However, Friday morning they were completely surrounded by the river and all means of communication between us was cut off. It was not until nearly two weeks later that we got word from them and they were able to get to our home. They had been taken out of a second floor window into a boat and then to the home of friends. The flood of 1884 was described as the wildest rampage of "Old Man River." Now it is regarded as just "High Water!"

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WHERE DID IT LAND?

Mrs. S. C. McCoy, Louisville

To speak of my work during the Flood disaster is to speak of a record of which I do not feel proud, as, at the beginning I was unable to do what I felt I could and should do. Unfortunately, during the first week, I was fully occupied with intestinal flu and was a burden to others, rather than a help. However, it is interesting to learn how we can help each other, even under adverse circumstances, when the occasion arises such as we encountered during the disaster. Dr. McCoy was active throughout the emergency.

Sunday night, January 24th, while we were listening to the terrible happenings of the Flood being broadcast over the radio, we suddenly found that we were without radio, lights, heat, water or telephone in our home, eight miles out in the country. The rain came in torrents, as it had been doing for days. But now, the rain seemed so much more fearsome since we were quite cut off from the outside world.

Next morning, at 6:00 a. m., we, Dr. McCoy and I, left home and went to our friends, Mr. and Mrs. D. J. Maloney, 2116 Kennilworth, in the Highlands, to offer our services as they might be needed to the people being evacuated. We registered ourselves as Refugees. Then, began relief work immediately. So many friends, Refugees like ourselves, came to the hospitable Maloney home that we, at Mrs. Maloney's suggestion, transferred to the home of her mother, Mrs. Mary Shea, 1819 Edenside, where I was quite ill that first week. However, as soon as I recovered sufficiently to help, I was elected Cook, Housekeeper and General Manager of the "Shea Refugee Home," a position which I proudly held until the emergency was over.

Dr. McCoy worked at the Emergency Relief Hospital organized by Dr. Guy Aud at St. James Church and School, Bardstown Road and Edenside. This Medical Staff consisted of 12 physicians and 3 medical students, working eight hour shifts, thus keeping the Hospital open for in-coming patients 24 hours, daily. Nearly 2,000 inoculations of typhoid serum were given that first day and the hospital soon filled to capacity with unfortunate people of all creeds and color who had been forced to leave their homes. Later, the St. James School was changed to an Evacuation Hospital and functioned as such until need for this work ceased. After the closing of St. James Relief Hospital, Dr.

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McCoy joined the Medical Staff at the Jerry Diggins Relief Hospital, located on two floors of a music store on Bardstown Road, and here he continued to work until this, too, closed. Then, Dr. John Trawick, Jefferson County Health Officer, asked him to make a survey of the venereal disease problem in the County.

Because of the long-standing work of our Sewing Unit in supplying needs for the outgoing patients at the City Hospital, Mrs. Julia Gross of the Social Service Department, requested clothing and bedding. From the already completed garments made by members of the Sewing Unit, under the chairmanship of Mrs. John M. Keaney, we, Mrs. Keaney and I, were able to make up a good sized package of sheets, pillow cases and infant's layettes. The package was well-wrapped and marked and sent from Mrs. Keaney's home, 1600 Eastern Parkway to Barrett and Broadway, then by boat to Mrs. John Gross. Later, in checking-up we learned that this package never did reach its destination but landed in the hands of the Red Cross. Undoubtedly, it was given to some distressed families who needed it, but, we are sorry to have disappointed Mrs. Gross and her needy charges.

Dr. McCoy's office and our home were, both, closed for five weeks. But, if we helped any of those unfortunate souls in their distress, we have been fully paid for our effort and inconvenience.

SOUP, COFFEE, SERVICE

Mrs. J. Paul Keith, Louisville.

I know every doctor's family was busy during this period of anxiety. I think all of us are grateful that the spirit of kindness and helpfulness dominated in every single one of us. In spite of our handicaps, a twenty-four hour service was not too much and all were willing to do what they could to alleviate the suffering of those who came to us. Our homes became real service stations and how willingly we served our soup and coffee day and night to those who came and went in service for others.

The spirit of the Refugees was wonderful too, for they spent their time ministering to those in need. One young secretary here actually worked sixteen hours every day for two weeks without even a word of commendation. As we think, of those days of strenuous labor, we marvel at the wonderful way in which so many carried on. Our friendly neighbor doctors came from far and near to assist.

Drs. Wells, Hays and Vernon from Glasgow and Mr. Albannion from Columbia, Ky., were at our home and how busy they were for a few days! Miss Lily Detchen and her sister were Refugees here and proved valiant workers as did Elizabeth Keith and her father. Our colored people came to us sick and weary but were soon able to be out.

RUMORS WERE RIFE

Mrs. John M. Keaney, Louisville.

Being the wife of the Coroner of Jefferson County, I had quite a few experiences during the harrowing, terrifying days of the recent Flood in Louisville. Owing to lack of telephone service in the downtown section of the city, all calls for the Doctor came to the home — most of them from persons seeking news of deaths and drownings; or from those frantically trying to procure information concerning relatives or friends.

The most terrible experience of all that I had was one particular night when someone called and excitedly demanded, almost screamed into the phone, "Have the Coroner come at once— At least one hundred people drowned at Fourth and Broadway." At the moment I had an indescribable feeling owning in part, perhaps to tense and overwrought nerves after the trying day. Shortly after this another call followed, reporting the first as just a rumor. Of rumors there were quite a few while the ordeal lasted.

In reality, there were only eight deaths actually due to drowning, which in my opinion is remarkable. Everyone responded to the call of duty so nobly. Of course, the story would have been quite different without the wholehearted co-operation of the city officials, Doctors and health officers, nurses, pastors of churches just turning over their schools and parish houses; and had not people of the Highlands and Crescent Hill sections, as well as in our neighboring cities, thrown open their homes to the thousands of Refugees who had to be housed and cared for. Were it not for the sacrifices of countless of our citizens, it most likely would be a different story and undoubtedly more lives would have been lost.

As I suppose most of you readers know, three quarters of Louisville was under water. Business and residential districts alike were affected and property loss was estimated at $100,000,000.

I could write on and on relating my experiences, also the destruction, etc., but no doubt by this time all the most important facts have been written and re-written, read and re-read. Undoubtedly, the Flood of 1937 will ever remain in the memory of every resident of the city as one of the major catastrophes of modern history.

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ANOTHER FALSE ALARM

Miss Grace Stroud, Louisville.

It all seems so absolutely impossible and nightmarish that I still cannot believe that it actually happened. But there is very real evidence that something happened recently in Louisville and the vicinity.

As we live more than three miles from the river my father and I were most fortunate. The flood waters did not come closer than a square and a half from our home. My brother, however, lost his home and furniture.

It was not until Thursday, January 21, before that never to be forgotten Sunday that we began to be uneasy. When I phoned my sister-in-law in New Albany Thursday morning she said that there was water in their back yard so later in the day my father and I drove by to see them. By the time we eventually reached them we were quite alarmed. We had had to drive through water several times and their back yard was completely covered. After much persuasion on our part, for my brother did not think it could possibly get in his house, they agreed to spend Thursday night with us. Friday morning they went home. That is, they went to see their home. They were unable to get closer than a square but could see that the water was on their porch floor. When next they saw their home, it was submerged, the water up about two feet on the roof. The inside of the house looked like some monster had torn the furniture apart. Then piled it in the center of the rooms. But, with all of his heedless destruction he had to have his little joke! He carried an immense chair from one room to another, an almost impossible task for my brother. He ripped up heavy pieces of furniture, but he left unbroken, and undisturbed in any way, eighty-two glass jars of canned fruit and vegetables. The whole place was such a discouraging sight that my brother has rented another house, bought new furniture and is going to start fresh again.

During the time of the crisis we did the tasks at hand but have no special rescue work to our credit. My father helped in neighboring refugee stations, giving between sixteen and seventeen hundred typhoid inoculations. He had only one boat ride but will be perfectly satisfied if he never has another. He was called to see a sick person who lived about four squares west on our own street. The trip took two hours! He took a row boat about a square and a half from our home but soon had to change to a motor boat. This started toward the central part of the city and then turned back through another street. On this street they ran over the top of an automobile and nearly turned the boat over. After changing to another row boat the patient's house was finally located. The boat man stepped out in the water in his hip boots and lifted my father, heavy overcoat, boots and all, in his arms and carried him to the house. Luckily, my father is not built along my rather generous lines. In response to his knock a man came to the door and said that there was no one sick there. So there was nothing to do but make the long trip back home. It had taken two hours to go to a house four squares west on our own street. And —to no useful purpose. Another false rumor! My father is glad of the experience, now, but does not care to repeat it. This, with some necessary sick calls in the community, was about the extent of his flood work. The rest of us just stood by, agonized by the plight of others.

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PETS AND LAMPS

Mrs. E. L. Henderson, Louisville.

A dreary patter of rain. Sleet. And, then came the Big Water.

"Please send a boat. Man on roof. Thirty head of cattle marooned. Help. Help." Shut that radio off.

It just can't happen to Louisville. But—it did.

A nightmare of bewilderment—excitement. A rush for some organization. Doctors. Nurses. Would-Be Nurses. Everybody, helter-skelter. A wild desire for helpfulness and to be helpful with self-appointments running riot. Then Committees formed for This and That. At last, a resemblance of order and a realization that we were a flooded area.

My Refugees (God bless 'em) came. Pets. Pets were being poured upon us, "Please keep Pat—he is all I have." Repeated over and over for pets of various names.

It seemed as if the water would never stop coming toward us. Quietly, determinedly, steadily it came closer and closer. Our lower road closed. Electricity vanished. Poor smoky gas came through the mains—yet, it was better than none.

"Use phones for emergency only. Water, one hour in morning and evening will be turned on." Hurry. Get the kettles on to sterilize every precious drop. Then, over to the Baptist Hospital, asking only to be of service. Sure enough! I got a job! Cleaning kerosene oil lamps! Many sent in from attics where they had probably been stored since the days of "After The Ball." Well—that is about all left for us Nurses-Of-The-Past amid all the improvements and fandagoes of today! And—lamps did need to be cleaned.

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If medals were to be awarded, I would cast my vote for the Layman who sat all night on the roof of a shed with two bull-dogs, six cats (all strangers to each other!) and a Woman-In-Labor. That, to me, was Heroism.

For high grade intelligence, I would like to give it to the mule that climbed to the second floor of the dwelling, pulled a mattress from a bed, stood on it and awaited his master who arrived nine days later.

Word came that the Old Ohio was slipping back to his bed. But—it was harder to tell whether the groans were louder when he came or left. Dirt, Filth, Rubbish, Ruin. Since it is all over, I believe we will forever hear those moans, sleeping or waking.

Spring is coming!

Why bother with a house when we have all the outdoors to live in?

IN OUR RELIEF STATION

Mrs. Bernard Asman, Louisville.

When disaster enters a community bringing with it untold destruction and despair, its members learn anew the true meaning of "Brotherly Love." Last month when the Ohio River came rampaging through the streets of our city, we, who were among the more fortunate citizens, were given the opportunity to prove our belief in the age old teaching, "Help One Another."

My chance to help came on Sunday, January 24, when a Relief Center was established in our parish school building at the Catholic Church of St. Francis of Assisi under the direction of Mr. Charles J. Myers. Rev. Father James Lehman, who was then acting Pastor, called me to act as Chairman of the Cafeteria and Kitchen. During that day and night, we prepared hot coffee, hot soup, and other foods which could be procured on short notice, for the hundreds of Refugees who were brought to us constantly. As the organization of our Center improved, the departments were assigned to individual Chairmen, who supervised the workings of their groups.

Upon entering our Center, each Refugee was registered in a systematic and accurate manner by the young ladies of the parish, who carried on a twenty-four hour service under the Chairmanship of Misses Mary Patricia Asman and Mary Elinor Smith. When the name and address of each person had been taken, he was sent to the clothing department where the

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Parent-Teacher group under the direction of Mrs. W. P. Kelly, President, provided him with clothing to cover his needs. My department, then, offered him a hot, substantial meal and directed him to the inoculation department for Typhoid Vaccine, where Dr. Bernard Asman was in charge. As soon as possible after these services had been given, our Refugees were placed in neighboring homes or sent out into the State. As they left the building, their destination was recorded on their original registration card.

During the service of our Relief Center, we received 7128 Refugees. Over 12,500 typhoid inoculations were given; clothing was provided for 1831 people; 2357 orders for groceries were filled; and meals were served twice daily to an average of 250 people. Sewing was distributed through the parish for the Red Cross Society.

Now that the immediate emergency has passed, we who have paused to wonder may realize that the effects of this great catastrophe have brought with them a clearer realization of the Divine Power of our Master, a better understanding of human nature, and a closer, more sympathetic feeling toward our fellowmen. Those, who have really been through this terrible experience, are faced with an almost unsolveable problem—that of reestablishing their homes. The first impulse is to give up in despair but, that silent voice within whispers "Hope"—"Bear Up"—"Build Up," and with the help of God, that is what our Louisvillians are doing.

WESTERN PARKWAY A RIVER

Mrs. Joseph F. Dusch, Louisville.

On Saturday, January 23rd, I realized that the Flood was becoming a very serious matter for the constantly approaching water on the Parkway was almost before my door, 4523 Western Parkway. I was ill and this made me nervous; in fact, I was almost distracted for we could do nothing to stop the encroaching, destructive waters coming nearer and nearer. The gas flow was low and getting lower, our only means of heating. I could feel the cold, damp, penetrating cold. The radio was broadcasting distress calls from everywhere. "We will have to leave," I said to my husband. But, Dr. Dusch did not want to leave home and said he would stay as long as possible.

By Sunday morning, the water was creeping into our basement where I had arranged a comfortable summer kitchen and dining room with all the dishes and furnishings to make it attractive. We used to enjoy our basement. It was cool and pleasant in summer. Finally, I could endure it no longer and as Dr. Dusch insisted he would stay on, I drove off about 11:00 A. M., alone, in my little Dodge, with no extra clothes, but a house dress and a pair of pajamas. I had not the presence of mind to do more. All I wanted was to get away and out of that awful water. The water had bested me.

That was an unforgettable trip! High water, slush, ice, snow. Western Parkway was a river. My motor stalled. I could not get it started. I sat, it seemed, for hours, alone, in that car surrounded by water. At last, some soldiers pushed my car with their truck for about ten squares. Then, I did get the motor started and drove on arriving in the afternoon, sometime, at the home of our friends, the Robert Hagans, 1807 South Third Street.

At about 3:30 P. M., policemen came to our home and told my husband and our two tenants: "You will have to leave. This is your last chance. Otherwise, you will be marooned and we will not be able to return for you." So—they carried them through the ever-deepening water to a truck and they were taken to Fountain Ferry Park where an Evacuation Station had been established. Here, Dr. Dusch found plenty of medical relief work to do among Refugees. More cars were needed for rescue work, so Dr. Dusch gave some Red Cross workers permission to go and get his car, Packard, higher motor than my Dodge, out of our garage and use it. He forgot to give them the key to the garage. So—they had to break a window to get in. They got the car, however, and used it as long as they needed it. Then, after Dr. Dusch had located me at the Hagans, by phone, he, too, came, before 7:00 P. M., by some less hazardous route than I, to this hospitable home and here we spent the night, he, sleeping in his under clothes.

On Monday morning, January 25th, we determined to go to the home of our daughter, Johanna (Mrs. Dinwiddie Lampton), 1877 Douglass Boulevard, in the Highlands. We left my car on Third Street—later, it was submerged when the water overflowed this area, too—and drove in my Husband's old Packard. The water everywhere was bewildering. We did not know what streets we could drive. We tried several. All seemed blocked. We drove into a gas sta-

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tion and inquired how to reach Douglass Boulevard. We were told it could not be done. But, one man, a taxi driver, offered to take us if we would return him to that gas station. He did and my husband paid him $3.00 for the trip, ordinarily a few blocks, for we were both exhausted and felt unable to navigate ourselves. My daughter's chauffeur returned the taxi driver to his oil station destination.

Our daughter rejoiced to see us for she had been almost distracted by a report from some one that her mother was marooned alone in her car in the River of Western Parkway on the morning before. No telephone communication was possible and she could learn nothing about either her father or me since Saturday.

Amid all the tragedy and the bewilderment of it all, there were some ridiculously funny happenings. And—we laughed with tears. That Sunday night Dr. Dusch was exhausted. Having left home without a single garment save what he wore, my daughter laid out a pair of Don's best pajamas, black silk, for him. And, he went to bed, while we sat and talked a while. When I went to get the pajamas Johanna had laid out for me, dainty pink silk of her own, I could not find them. (I had forgotten to bring mine from Hagan's). At last, we spied the black pajamas on a chair. Then, quietly, we, she and I, stole into the bed where Dr. Dusch was sleeping, gently turned down the clothes and found him peacefully slumbering, like a beautiful gentleman rose bud of exquisite pinkness.

We were with her as Refugees for six weeks. Dr. Dusch assisted in the clinic at St. James Church, daily. Although the water just covered our first floor, it buckled and called for re-placement. The basement and its contents were ruined. Ice box turned on its face, electric iron in middle of floor, dishes broken, everything destroyed. Memorable? Yes. A weird nightmarish memory!

LONG SLEEVED, LONG LEGGED

Louisville, Kentucky
1479 South Fourth Street.
March 31, 1937

Dear Jane T. McCormack:

It is rather difficult for me to write of my tiny experiences, when I have been readiag and hearing of others who will always bear the marks of The Flood, one of the worst disasters of its kind in history.

As usual, I had to be forced to believe that an emergency had arisen (having just that kind of a disposition). My sister, Elizabeth, is Librarian of the Portland Branch Library. This Library became one of the first Flood Relief Stations in the city. It was then, while Elizabeth was coming back and forth from this work, that I became aware of the Flood, of its far reaching devastation and ruin. At last, I heeded her warning to get food, candles, lamp and coal-oil, all of which seemed, even then, a bit extravagant and far fetched to me.

But I began to know a Flood existed when our faithful and true maid could no longer serve us as her house at 27th and Cedar was under water.

The Flood became more and more real, when, on Saturday evening, it took my husband two hours to get home from The Pope Sanatorium. On Sunday, my husband's car was under water in a garage several blocks from here, and try as he would, he simply could not get back to the sanatorium, and was absolutely marooned from his work. By the hardest, Dr. Rogers managed to reach a Jackson telephone as ours went out of commission Sunday.

All day Sunday, with deep sympathy, I listened to the Radio, telling about marooned folks being saved by boats. But, as yet, while we were marooned from flooded areas, there was no evidence of a Flood at Fourth and Hill Streets.

It made us very sad to see the trucks and automobiles going by here all day Sunday, carrying people and their bedding and a few possessions to places of safety. Rainy, chilly weather added no cheer to the depressing picture.

Then we began to receive frantic telegrams from our out-of-town kinsfolk, offering us aid and refuge. The mere thought of fleeing a flood seemed a far away idea to us. But we began to realize that our kinsfolk would picture us fleeing the Flood because we could not answer their frantic telegrams as there was no way to do so. There we were, with no electricity, no phone, water rationed, gas to be hoarded, and later, no newspaper at the door-step. How we missed that newspaper, I can never say!

The torrential rain on Sunday proved a boon to many. We have a nice little back porch, on our third floor apartment, with no roof, and it was there that we filled every available pot, pan, crock and basin with water. Later, every drop of water that was used had to be packed

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Louisville, Kentucky WA. 1935

by my husband, from the first floor to the third.

On Monday morning, we awoke to find our apartment house on a veritable island surrounded by water with a swift current in it, at that! Thus, my two sisters, my husband and myself were actually marooned. Immediately, I thought of my son and his wife, of my brother and his family, of other kin and good friends, not far away but impossible to reach! Panic seized me! Were things as terrible as The Johnstown Flood or The Last Days of Pompeii, upon us?

Now, my husband, marooned from his work at the Sanatorium and satisfied by former telephone messages over the Jackson line from Dr. Raymond Haymond that all was well with the patients, freely and gladly gave his services to the Relief Station at St. Paul's Episcopal Church at Fourth and Magnolia, and to whoever needed his aid.

The Boat Boys, looking very picturesque in their leather coats and caps and high rubber boots, ran their boats up and down Fourth street, Hill Street, Magnolia, First, Second, Third, Ormsby, Oak and other places in our vicinity, and would take my husband whenever and wherever he was needed for calls or inoculations, provided the places were in their precincts.

One Boat Boy used to anchor his boat in the water, near us, as he stayed, at night, in an apartment, near-by The next morning, way, way early, he would awake the neighborhood, whistling merrily, all ready to start on his brave and difficult task of rescue or of food for the hungry or of aid of any kind, especially carrying the doctors to and fro. He was a real example to all and I have often wished I could meet him and tell him so.

It seems to me, (now that it is all over) that we did not have such a very uncomfortable time. Of course, it was a little bit difficult not knowing just when we might have to pack our tooth brushes and nighties and hail a boat, to be transferred to a truck to seek higher ground. One morning, the gas that we depended on for both heat and cooking did get so low it wouldn't boil water. Then we raked around in an old trunk and found some long-sleeved, long-legged union suits of the nineties, and some of the warm stockings we used to wear when the dresses were so short we had to try to keep our legs from freezing! But the gas did keep "on," so we "stayed put."

Now my water-carrier, Dr. Rogers, became so engrossed with the Relief work, that, several times, we went, rather short, of our supply of water. So we just used one of the tubs full of the rain water to wash vegetables (the few we had). We even drank this water, after the twenty minute boiling, and it made not the slightest impression on any of us that the tub was a wash tub! No one dared to remember that clothes had been washed in that same tub just before the Flood! Is it any wonder that it became a point of honor to see how long you could wear your same garments, and how apologetic you felt if any one caught you in the act of washing a hanky and drying it on a window pane? I think it takes a Flood to see how long you can make food last!

It takes a Flood to make us grateful for the ordinary conveniences of life. I remember rushing down three flights of stairs to mail a most important letter before I realized that the letter box at the corner was "under water."

I think it takes a Flood to show a housekeeper how to save gas at the same time boiling water ten or twenty minutes, saving water at the same time!

I think it takes a Flood to bring out the best in people. I believe the City of Louisville will go down in history for just that!

And lastly, I feel sure that it takes a Flood to show the world, not only, how kind and helpful all the people were, either officially or privately, but to show the world how kind, how generous, how efficient our doctors were in a tragic emergency.

And it takes a Flood to show the world that our doctors are, even now, planning to protect folks in the next emergency (which we hope will never have to come).

And, if all your other correspondents are as voluble as I, you will have a Flood of letters!

Lovingly,

Jane Rogers.

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LOUISVILLE, KY.

FAITH, HOPE AND CHARITY

Mrs. Hugh N. Leavell, Louisville.

Except for the fact that I was in the Highlands keeping house for my son, Dr. Leavell, whose wife was in Florida with their children, one of whom was just convalescent from pneumonia, my experiences would have been similar to Mrs. Rogers; for we live in the same apartment house.

At my son's, we were hosts to Refugees from other parts of the city. My days were spent providing for their comfort, helping to relocate people who had become separated from their families, and cheering those who were anxious about loved ones still absent or depressed over the total loss of their possessions. To maintain a cheerful household required one's faith and strength, and a constant supply of sympathetic interest. To find necessary occupation to keep the people from brooding over their losses was another job: so, many were "the needs" that arose, as one or another Refugee showed symptoms of gloom. It was a rare opportunity to bring us close to each other, and closer still to our Heavenly Father, for we all realized that our dependence was in Him and from the time of our Bible reading and prayer each morning after breakfast, we turned to Him in spirit for strength and guidance throughout the day. Lasting friendships were made, as we shared each other's worries (and there were plenty of them!) and hopes. We waited on the sick and "stood by" for any call to service.

Two of my Refugees were young men who were uncertain of their wives' whereabouts, as while they were working, rescuing people in boats, having left their wives with relations, the water rose and rose and it became necessary for the wives and relations to move again and again to higher ground until a certainty of where they were was impossible. Many hours were spent trying to find these women and after several days one wife joined her husband. Such rejoicing! Still later, the other was located.

Our other guests were a father and mother with a small child, just recovering from an operation. The hospital needed the room for really sick people, so a trained nurse brought her little patient to our house to convalesce. These friends brought interest and cheer into our household and were ever ready to help or sympathize as the need arose.

And as an undercurrent through all I thought or did, ran my anxiety for my son who is the Director of Health. He was so overworked and had so much responsibility—the health of our city! There were days (once six days, and once eight) when he never came home; remaining at his office in charge. Often I did not even speak over the phone to him for days, did not even know where he was, only knew certainly that he was busy doing his best for Louisville! And when the flood abated, it was a tired worn man who came home to sleep in a bed for the first time in many nights with the satisfaction of knowing that he had done what he could for humanity and Louisville.

THE FLOOD OF 1937

Mrs. Henry Enos Tuley, Louisville.

I wrote to a friend in Illinois some of the things that came in over the radio, the first night I hung over it, tense, like the thousands of others listening in. I started my letter—"Who said Hell and Highwater?" As I wrote I interspersed my letter with parentheses quoting the pathetic "send a boat" pleas and the comments sent out. My letter was queer to read, but he had it published in the local paper and with what he had to say, as he writes now, it helped eventully to raise from a small town, $2,500 and four truck loads of supplies for the Red Cross Aid here.

When I heard a hospital branch was to be started in our locality, I naturally felt I might be of use—so I sallied forth. In the building, the people were willing volunteers, and what I heard a Negro call "rescuegees," I found a room with a few cots and several people lying on them; I approached a woman who seemed in authority and said, " I understand a hospital is to be here, I have some knowledge of nursing and would like to volunteer if I can be of service," and asked, "Are you a nurse?" "No, not a graduate, but I expect I know more about emergency work than you"—I promptly developed an inferiority complex, humbly said—"I have no doubt of that," and betook myself hence.

Then went on to St. Mark's Church, where my tottering morale was helped by the greeting

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I received there. "The very person I want. Will you go with Archie to find a family he rescued? He's afraid they may be ill." So off we drove, way out beyond St. Matthews. In an unpainted two-room house, we found two young women, five children, an adorable smiling baby. Yes, they were well, had plenty to eat—coal, etc., but such a messy, squalid place! However, they were safe and well, and Archie's conscience was clear, and we returned.

I registered at St. Mark's, and came home to find eight strangers had been allotted us as Refugees, so we turned to, to settle them. Very nice, helpful people. The men of our family were on duty at the City Hall, etc., so one Refugee took over the care of the furnace, and the open fire. The women helped with housework and meals, and their three children. We appreciated our mutual good luck.

My poor maid went out from her house at 17th and Dumesnil to find a place to move her 89-year-old mother and bedridden sister, and returning later could only reach 18th Street. Her mother and sister had vanished. And, for nine days she searched, finding them finally at 12th Street! In the Cabbage Patch Hospital unit.

I could not get in town, so did anything I could to help in my own bailiwick—waited on tables at St. Mark's, helped a nice young girl get a ticket to a Tennessee City and gave her my last dollar. It does not seem to me I did much but somehow I kept busy all the time even if what came my way was not dramatic.

How one missed the ralio! Now and then I heard one from a car, and the same call "send a boat" reiterated over and over. It will ring in my ears the rest of my life. It is all still incomprehensible to me.

Bread cast on the water—does come back—sometimes. A woman from Orange, N. J., whose son was ill at Camp Taylor during the war and we befriended, sent me $5.00 to use for some needy soul. The nurse who then had her son in charge, was ill after her patient recovered: I took her into my house and nursed her. She gave a card party and raised $40.00 for the Red Cross recently. Another sent me $15 from California saying, use it for some one. I did,—a bit here and there needed right then. My sister, wife of a Baptist Minister in Yonkers wrote—"Why did they call, 'Send beer bottles to The Baptist Seminary?' Did sound queer, I admit. Just to hold boiled water. Maybe beer would have hit the spot, too!

I met a pretty girl who poured her woes out on my already damp and soggy shoulder. "We were to be married in June. I had my trousseau and hope chest and 20 dresses and 19 pairs of shoes." I gasped over the shoes and mentally went over my stock of four pair. Poor girl everything ruined, no trousseau, no lovely wedding.

Looking back, I can't seem to feel I did much but somehow the days were not long enough to do the little things I found within my strength.

Since the tense dramatic days are over, everyone feels let down. We, in Crescent Hill suffered some inconvenience, but aside from lack of light, radio, water only twice a day, an hour each time, but plenty then, we had nothing to complain of, as did our friends in town. It was terrible to watch the trains of box-cars stop at the end of our block, and unload the sad-faced, homeless people, the aged, the babies, the little children. I wonder if the lost little boy was ever restored to his parents. He was made a pet by the guards who ate at St. Mark's. One of my friends marooned down town took a nap on a filing box, a radio for a pillow, she woke to the strains of "Home, sweet Home."

Many thousand crossed that wonderful pontoon bridge to board trains for inland towns, which they are now straggling back from to clean up the hopeless looking houses they once called home.—What a contrast!

Last week I head Lucia di Lammamoor on the radio, today La Traviata and such a short time before, only the call, "send a boat: urgent" rang all over the radio world.

So our world goes on. Another tragedy takes the front page—but our hard work has just begun. Only one who was in the midst of it all can realize the acute sanitary needs and conditions, and why boiled water and typhoid "shots" were so necessary.

Public comfort shacks built over manholes in the streets and saving water to flush toilets. Even, with so much precaution there were many unpleasant offenses in churches, schools, and private homes that only ignorance could excuse. That an epidemic did not follow is a miracle explainable only by the prompt action of officials and cooperation by medical men and intelligent citizens. May Louisville never meet such an emergency again.

Children are easily infected by tuberculosis. Do your best to protect all children from exposure.

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REFUGEES FROM Y. W.

Mrs. Joseph E. Wier, Louisville.

In thinking back, and trying to remember the high lights of the Flood, for me, I just get a memory of rain, tension, emotions being torn by the radio's incessant appeal, and a cacophony of sounds.

We live in the Highlands, outside the flood area, one square from Bardstown Road, where cars carrying Refugees, food supplies and boats raced back and forth continuously.

My husband's niece lives at the Y. W. C. A., Second Street, near Broadway. Sunday, January 24th, my son and I attempted to get to the Y to bring her home. We were able only to get to Third and St. Catherine Street where we were forced to turn back. We forded water up to the car doors in a number of places. I never want another ride like it.

On Monday morning, the water was coming in through the front door at the Y, so she and nine other girls walked a four inch plank laid from a window to a truck of the Silver Fleet. In the truck, she came to us and brought them all with her. They looked like Ellis Island immigrants with their blankets and bundles. One two-hundred-pound girl became hysterical when she had to walk that four-inch plank and insisted on rescueing an ironing board, belonging to the Y! The truck drivers had a great deal of trouble argueing with her about this treasure.

We never knew, on any day, how many we would have for dinner. My son, a medical student, worked in the Clinic at St. James Church, and he would bring guests home with him; relatives of the girls would come in town to see about their safety; then, out-of-town friends of my own family would come in to look after relatives, or, come to take Refugees home. As there were no restaurants where they could get food, one had to feed them. And—you did not mind feeding them—but, you did wish they would bring their own BOILED WATER!

There were many humorous incidents during this harrowing experience. In bringing a smile or a laugh, they lifted the tension, frequently.

A Highland neighbor received one night, about 9:00 o'clock, a frail, little old woman as a Refugee. She was weary, cold and hungry. Had been taken from her home in the West End at six that morning and been travelling ever since; first by boat, then, truck, train and automobile. The hostess put her to bed at once, brought her some dinner and did all possible to make her comfortable. Finally, telling her 'good-night' she was asked if anything more could be done for her. Hesitatingly, she answered: "Yes, would you mind telling me what town this is?" She was astounded to learn that she was still in Louisville, had come only to the Highlands after all that travel!

And, here is a bit of fine irony! On one of the

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first street cars running after the Flood, my niece overheard two men talking. This sentence held her! "That little dew in the West End almost ruined me."

My own home in Evansville, Indiana, on the Ohio River and not far from the Wabash, was under six feet of water. I had rented it, furnished. The tenants did not save a thing, not even a footstool.

As soon as martial law there, was lifted, I drove down with my son, February 7th. I will never forget the hush and the utter desolation of my own once-cheerful neighborhood. It was appalling! And—everything was ruined!

I sold what was left of my furniture—some of it had been greatly cherished—to St. Meinrad Monastery, 100 miles distant in Indiana, for but $5.00 and the hauling away. The Brothers wanted it and paid $5.00 for it because it was mostly solid mahogany. They plan to teach the lay-brothers to make mahogany veneer strips of it. They also took my husband's library for the purpose of teaching their students book restoration and book binding.

My memories of the Flood are not pleasant. I will be glad to forget the Flood.

I returned to Louisville in three days, February 10th, on the first train permitted to run over the railroad tracks after the washouts. The train was over nine hours making the usual four-hour trip and it was crowded with Refugees, young and old, black and white, many of them utterly downcast and discouraged, sitting beside others with such high courage and bright outlook that it made me abashed.

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REFUGEES AT HARRODSBURG

Mrs. J. B. Robards, Harrodsburg

Your card came and I will try to give you the information you asked for. Mercer County did not suffer from the Flood, only near the Kentucky River. The houses along the river were vacated in time, without much suffering. In fact we know of very little. We received 374 white Refugees, 177 colored Refugees from the flooded district. They remained about two weeks. We provided everything possible for their comfort in The Bohon Factory Building. Many of the Refugees were given places in the houses of county and town. Possibly 150 were cared for in homes and in that way we were able to take others as they came. The whites were fed in the basement of the Christian Church. The colored fed in the Presbyterian and Baptist Churches. Hospitals were provided at the white and colored Methodist Churches, where 24 white patients and 23 colored patients were cared for. One death occurred in the white hospital. Our Auxiliary members functioned as individuals; one of our members headed the Red Cross work, while several took the better class of Refugees to their homes and provided homes for others, solicited food, clothing and worked in the churches.

Our Auxiliary has sponsored several lectures in the High Schools in the county, on Venereal Diseases. Several more yet to be given. We had planned for a lecture on Cancer Cure for March, but have not been succesful in obtaining a speaker. I am sorry I can not report more activity in our Auxiliary during the time of the Flood, but we were not idle for there was plenty for each one to do.

HARDIN COUNTY AUXILIARY

Mrs. R. T. Layman, Elizabethtown.

The Hardin County Auxiliary and Medical Profession did a good deal of work for the Flood Refugees, from Louisville, West Point and Colesburg. Typhoid vaccine was given to several hundred. Homes were opened, clothing, food, cars and services of every kind were given the stricken people.

Mrs. R. T. Layman was appointed chairman of the sick committee, and was aided by two

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associate members, Mrs. George Woodard, and Mrs. Joe Fowler, as well as other E'town women. We were lucky to have two trained nurses who gave their services, as lot of the Refugees came to us sick from exposure. Our High School Kitchen was turned over to the town to cook for Refugees, where good meals were served each day. The Colored School cared for 65 colored Refugees in their school building. Elizabethtown and Hardin County responded 100 per cent.

Elizabethtown has a new doctor. Dr. George Bradley, a Hardin County young man, who has been practicing in Cannelton, Indiana. We are very glad to have him with us. Dr. Bradley arrived in time to help care for the Refugees.

We certainly appreciated Fort Knox, where most of West Point people were cared for. We sent several truck loads of clothing for the West Point people.

NO PLACE LIKE HOME

Mrs. Mary Jo Cissell, Louisville.

"There's No Place Like Home," be it ever so muddy and twisted and warped, floors and furniture all buckled, paper and varnish a sickly sight, furnishings but masses of debris, yet, it was Our Home. And, Our Home looked mighty good to us on Monday, February 8th, after a stay of two weeks as Refugees at Bedford, Indiana.

The good people of Bedford were most gracious to us. Did all in their power to make us forget that "Old Man River" had possession of our home. For their genuine kindness and comforting consideration, we are most grateful. yet, we still feel "There's No Place Like Home."

My father, who is 95 years young, was visiting me at the time of the Flood and he insisted that the water would not get up on the first floor. It never had. But—to look out the window at those swiftly rising muddy waters was terrifying! And—when, eventually, I opened the basement door and saw them staring up in my face, I decided, right there and then, it was time to get out.

My father, with my two sons, a daughter and myself, left our home in a boat Sunday afternoon, January 24th, to go to a friend's home in the Highlands, (Louisville). But—we landed in Bedford, Indiana, miles north of the Ohio River! Surprised? Well—rather! At Thirtieth and Broadway, we were transferred from the boat to a box car, or, I should say, a mail car—for there is a difference. In the mail car, we had heat and lights, luxuries unknown to those in box cars. We were very comfortable. Sat on the floor most all the way. My father seemed to enjoy it. Said he never thought he would be hoboing at ninety-five! Every one seemed in a good humor, all trying to make the best of the situation. We had two very sick women in the car with us. One of them died some days after arrival. There were quite a few dogs and cats on the train. After eleven hours on the train, we arrived in Bedford, all O. K. We may not have looked our daintiest, yet, we were mightly thankful to be alive and, safe and all together. We did not experience that harrowing trial of separation known to so many families.

The 800 of us Refugees were met at the station by generous citizens of Bedford who took us in their cars and in busses to the High School Gymnasium to register. Then, to the High School Lunch Room where we were served a most bounteous breakfast. Our appetites had been calling for food and these kind friends must have thought we were starved for we ate enormously of the good things provided. From there, we were taken to the hotels or the private homes where we were to be guests during our stay in the Stone City.

On Tuesday, January 26th, Monday, February 1st, and on Friday, February 5th, we were taken back to the Gymnasium for the Typhoid inoculation and for vaccination against small pox, administered by members of the Lawrence County Medical Society.

We, in our family, were most fortunate in that we were all placed together in the lovely home of Mr. and Mrs. Jesse Midkiff. I have never met finer people. They, certainly, treated us like Royalty. Words cannot express our deep appreciation for all that they, and others, did to make our stay pleasant. They were kindness, itself. Yet, when we were permitted to come home, we could hardly wait to get started, and, knowing full-well, what a desolate home-coming we would find it, too. But—the Good Lord who sent the Flood, also sent us a beautiful sunshiny day for our return and gave us the faith and the vision to see beyond all the destruction, a far better home than we have yet known.

Thanks be to Him who does all things for the best.

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REFUGEES IN INDIANA

Gallant 95-Year Old "Southern Gentleman" Among Refugees

"What is your name?" the woman at the registration desk at the refugee headquarters last night asked. "Robert Thompson, Madame," said the man. "How old are you," the registrar asked in the question routine provided. "Ninty-five years, Madame," said Mr. Thompson.

The registrar straightened to look at Mr. Thompson. Erect, despite his years, smiling despite his sad plight—this gallant old gentleman said, "I suspect I am the oldest member of" —and he looked around the milling mass of people with a brave attempt at lightness, and concluded with "our party."

Mr. Thompson, a gentleman of the old school, is a resident of New Haven, Ky., and was visiting relatives in Louisville when the flood waters invaded the home of his relatives. With his daughter, Mrs. Mary Jo Cissell and her sons, he made the journey to Bedford, arriving, after the long hours of the journey in box cars, in Bedford. The solicitude of his relatives was touching and the registrar stood up and saluted him in sheer admiration.

To meet such gallantry is an experience not encountered every day and from out the heartbreak and anxiety which pervaded the scene last night, it gleamed like a beacon. Robert Thompson, of New Haven, Ky., Bedford is honored to have you as a guest. May your experience here be as pleasant as possible under the circumstances.

—The Bedford Daily Mail, Bedford Indiana.—1-25-37.

HAZARD HELPED!

Mrs. C. M. Anderson, Hazard.

I will tell you all I know about the effect of the Flood here, and I will hand your card to the Secretary soon as possible.

Since we live 200 miles or more from the Flood area, no Refugees were stationed here.

We cared for one Refugee in our own home. She had formerly been employed here by the Singer Sewing Machine Co. She was here almost a week, then was called to the Singer Cincinnati office.

Our Auxiliary contributed money and clothing to the Red Cross here for the Refugees. I do not know how much.

The County contributed $18,000, including coal, 200 carbide lights and carbide. All information along this line can be obtained from Dr. A. M. Gross.

SAMSON COMMUNITY

Mrs. Wallace M. Chapman, Glasgow.

The Woman's Auxiliary of the Samson Community Hospital, Glasgow, held its first 1937 meeting Tuesday, March 2nd. All came prepared to spend the whole day making hospital supplies. Each brought a portion of the delicious lunch served at noon.

Throughout the day, the most frequent topic of conversation was the recent Flood. Experiences were exchanged. Mrs. E. A. Barnes, President of the State Auxiliary with Dr. Barnes, was among the first to establish medical service in the flooded area of Louisville, where she remained for eight days.

Local physicians who left Glasgow for Louisville to aid in relief work were Drs. Richards, York, Vernon, Hayes, and Wells. For the rest, there was more than enough to do in caring for the 700 Refugees brought to Barren County. These were divided into three portions, one each to Cave City, Glasgow Junction and Glasgow.

In Glasgow they were brought first to the Armory and placed under the supervision of the Barren County Health Department. Each person was given a physical inspection to locate illness of any kind. Those in good health were then distributed by families to various churches.

In the Christian Church, Mrs. C. C. Turner was chairman of the Executive Committee. Assignment was to feed, clothe and house 101 people. Mrs. Paul York supervised distribution of clothing, bedding and toys for children. A similar scene in the Methodist Church found Mrs. W. A. Weldon cooking, distributing food and clothing for 105 people. All Refugees were inspected daily by members of the Health Department and all typhoid immunizations were completed. They were assisted by members of the Home Hygiene Class. Local physicians responded in rotation to calls for emergency service. Cases severely ill were removed to the Hospital. Several pneumonia cases were treated there, also one case of acute appendicitis. A Flood Baby was ushered into the world by Dr. Richey of Glasgow Junction.

Mrs. C. C. Howard gave her time and car for carrying Refugees and for soliciting funds for Red Cross. Mrs. C. G. Depp carried on similarly in Hiseville. Mrs. W. M. Chapman gave typhoid immunization in the Health Department.

In nearby Monroe County, Mrs. H. B. Ray was busy in company with the disaster committee, caring for 116 homeless people.

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EXPERIENCES OF AUXILIARY MEMBERS IN BARDSTOWN

Mrs. J. I. Greenwell, New Haven.

The first Refugees who came to Bardstown were few in number and Mrs. Wm. J. Roby, with other women, opened a little church there known as the Carmelite, and converted this building into a temporary Emergency Hospital until the Red Cross could take care of them. A coal stove was used to warm the place; cots and bedding were donated. Hot coffee and sandwiches served them by these women. Food was sent in by local citizens.

Schools were closed—Bardstown High, St. Joseph's Preparatory, Bethlehem Academy and St. Monica's Colored school threw open their doors to shelter Refugees. The local Christian church, Methodist, Baptist, and colored churches donated the use of their buildings for housing also.

An Emergency Hospital was set up in the residence of Mr. and Mrs. Tom McKay in Bardstown for the care and medical attention of sick persons who were transported there. All Refugees were inoculated with typhoid vaccine which was supplied to Dr. R. H. Greenwell, County Health Physician, by the State Board of Health. This vaccine, which was sent to Bardstown by bus and by private individuals, was administered by local physicians to Refugees in the Post Office building in Bardstown. Health authorities urged people every where to take all possible precautions to prevent the spread of epidemics.

A kitchen was opened in the Samuels building across from the City Hall to feed all Refugees which amounted to more than 500. Both City Hall and the kitchen cafeteria operated on a twenty-four hour service to the sufferers.

Mrs. Wm. J. Roby was assistant manager of the cafeteria at times. Mrs. C. B. Elston and daughter, Carolyn, also assisted in preparing and serving food. Mr. and Mrs. Elston made two trips to the "Heaven Hill" Distillery near Bardstown for yeast to make the bread. Mr. Elston played "errand boy" on different occasions; also acted as local WHAS broadcasting station by using his large horn as a megaphone in directing and instructing the relief workers. Mr. and Mrs. Elston also took care of five Refugees in their home.

Mr. Roby drove his car to Beuchel a number of times to help convey the homeless ones to Bardstown. Mrs. Roby and her helpers labored at the Cafeteria from seven o'clock in the morning until ten at night on days appointed to serve the three hot meals.

Although more than 1000 Refugees were fed and housed in Bardstown, and more than 4000 fed and clothed, thousands of others were brought there for distribution to Bowling Green, Columbia, Munfordville, Cave City, Glasgow and other towns farther south.

Refugees were housed and fed in the homes of Dr. and Mrs. A. D. Steely, Dr. and Mrs. R. H. Greenwell, and Dr. and Mrs. Wm. J. Roby. In fact, Refugees were cared for in the homes of every member in Nelson County. The doctors were all very generous with their time and services to aid those in need.

EXPERIENCES OF AUXILIARY MEMBERS IN NEW HAVEN

Mrs. J. I. Greenwell, New Haven.

When the news flashed through our little town that we would care for Refugees, in response to the S O S Call from radio station WHAS, a meeting of the citizens of the community was called, and held at Allen's Drug Store. Mrs. E. D. Mudd, Dr. and Mrs. J. I. Greenwell were among those present. Different committees were formed, such as housing, food and clothing, financial, etc.

A temporary Red Cross unit was organized with headquarters in the K. of C. Hall. Dr. J. I. Greenwell was made chairman. Cash donations were received immediately, and chairmen of the committees began working in earnest.

Persons in Bardstown, New Haven and Bloomfield and other parts of the county, who, themselves, were not in distress rallied patriotically to the aid of Flood sufferers in Louisville and other stricken districts. All organizations mustered forces and worked incessantly to provide comfort for the Refugees. Many also, loaned their boats and automobiles most willingly to bring to safety those who were marooned.

Both Baptist and Methodist churches threw open their doors; the basement of the Catholic church was opened, and a portion of the Sisters Parochial School building was donated to house the expected Refugee visitors. Then came the question: How to get them here? Dr. Greenwell sent both his cars with sons as drivers to Buechel to convey the homeless victims. Other members of the community gladly furnished their cars for transportation of the Refugees to New Haven. About 125 arrived. Approximately four thousand Flood victims, of which about six hundred were negroes, were housed and fed en route to Refugee Camps further south. About three thousand were served hot coffee and sandwiches in New Haven while

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awaiting turns to be ferried across the water which was over the highway.

A cafeteria, laughlingly called "Shirt Tail Inn" was opened in the K. of C. Hall on Main Street, with Mrs. Zeta Mays (secretary of Altar Society) as Chairman of Food Committee. Responsible women of different organizations of the town were appointed to assist in preparing the menu for the day; also to cook and serve the three hot meals. Each woman took her turn working at the cafeteria, being privileged to select her own helpers for that day.

One woman (who is an Auxiliarite) with her husband drove to nearby distilleries on two or three consecutive days to procure yeast to be used in making their bread.

Mrs. E. D. Mudd was in charge on different occasions.

Food was solicited and distributed to the Cafeteria by individual citizens assigned to this work. Local people furnished most of the food. Red Cross gave some bread and all the fruit. Hot biscuits were made and baked each day at the Cafeteria.

Mrs. J. I. Greenwell sent her new five-burner kerosene stove to the Cafeteria to cook all food for the Refugees. Cooking equipment was loaned by local members of the parish.

Gethsemani Abbey furnished about 25 gallons of milk daily.

Dr. Greenwell's sons, Harold and Freddy, made the mile trip in their car to get this milk and deliver to the Cafeteria. Many cakes of the famous Monk's cheese, and several loaves of their brown bread were also given generously. On another occasion these same boys drove again to Gethsemani Abbey for an 800-pound beef, donated by the good Monks; took it to the Cafeteria and butchered it. A car load of grape fruit and oranges which had been stranded in New Haven, owing to Flood waters, was opened and distributed to the Refugees three times daily, by the Red Cross, under the personal supervision of Dr. Greenwell.

All water for the Cafeteria was furnished free by the Municipal Water Works, a newly completed plant in New Haven; the Red Cross furnished coal for heating and kerosene for cooking; electricity was furnished by the Tennessee Light and Power Company.

Inoculation centers were set up in the offices of Drs. Mudd and Greenwell. Vaccine on hand was not sufficient at the time of disaster; Dr. Greenwell sent his car and son to Louisville on two occasions for this vaccine which was furnished by the State Board of Health.

A member of the State Board of Health made visits to New Haven and with the assistance of Dr. Greenwell investigated all Refugee quarters and found them to be in sanitary condition.

The new modern brick residence of Mr. A. E. Kirkpatrick, cashier of Bank of New Haven, which was nearing completion was used as an emergency hospital. Miss Martha Greenwell acted as Superintendent. Many inoculations against typhoid were given in this new home. She and an assistant took care of thirteen sick women and children. None of them were very ill. Later, when they became better, these Refugees were removed to the church quarters with the others, but the building was retained for an Emergency Hospital until all Refugees had left town. To this hospital the good Monks donated 15 beds and mattresses.

Martha Greenwell made three weekly trips to neighboring towns to give inoculations. These, with what was given by her in New Haven, amounted to about fifteen hundred.

A few Refugees were taken care of in the homes of Drs. Mudd and Greenwell. Miss Inez Mudd, daughter of Dr. and Mrs. E. D. Mudd, a trained nurse, was doing volunteer relief work in Louisville and developed pneumonia. She was taken to the Marine Hospital and treated until she could be removed to her home in New Haven. We are glad to say Miss Mudd has recovered and resumed her work again.

One day, a band of Refugees, en route to Bowling Green, in passing through town stopped and asked Dr. Greenwell if they might be allowed to remain here until two of the occupants of the car became better. The driver informed the doctor that he "was afraid to go farther for fear the woman in the back seat might die" due to exposure before reaching their destination. The doctor approached the car and saw that the mother, very sick, was unconscious, lying in a wet blanket which was covered with ice. The baby had a temperature of 106. The doctor gladly invited the driver to "unload" at his new business block on Main Street, which was partly unoccupied. Soon this building was converted into an Emergency Hospital; cots and bedding were quickly donated. Mrs. E. D. Mudd sent pillowcases and sheets. The other occupants of the car were members of this family, and all were invited to remain in the building until they could arrange to travel again, which was a period of three weeks. They were fed by the women of the Cafeteria who carred the food across the street until they were able to go for their meals.

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Fortunately none of our Nelson County physicians families were "hard hit" by this sad experience of many others, but we did hear one physician say that on one occasion he visited one of the refugee centers and noticed one man surprisingly "all dolled up" in his (the doctor's) Sunday suit, shirt and tie. He went home and smilingly said to his wife, who had been very liberal in her donation of clothing, "I'm afraid to undress tonight for fear you will give these clothes away."

Space bids us pause. The story is endless. The great Flood in Louisville and Kentucky has come and gone, leaving marks everywhere but not many scars. Those who accept the visitation with Christian resignation and trust in God, will be better for it. Those who resent it, should there be any such, will be worse off than before, yet, they too, may eventually see the blessing in it all, for out of evil Divine Providence can bring good.

A touch of sorrow makes the whole world kin, and the people of Kentucky have been more closely knit together by the recent Flood disaster than for many years.

MARSHALL COUNTY

Letter From Auxiliary President

Benton, Kentucky
February 27, 1937

Dear Mrs. McCormack:

In answer to your card, I will try to tell, in part at least, what we did during the time we cared for Flood Refugees. When I say We, I mean my family—a sister, Mrs. Geneva Gregory, and daughter, Miss Martha Gregory; a sister-in-law, Mrs. George Smith and daughter, Miss Rubie Smith and myself. Dr. Stone was sick and not able to help except those patients who came to the home.

On Sunday, January 24th, Mrs. Gregory worked during the afternoon in a snowstorm, going from house to house, gathering together materials for the Emergency Hospital, developing for the sick at the High School, and to make a home for the well Refugees at the C. C. C. Camp. She, and her daughter, worked all night. I worked next day and until 12:00 o'clock that night. After this, we were not needed all the time. Many of the townswomen worked at the hospital.

Mrs. Gregory cooked breakfast each morning for three weeks. Martha and Rubie nursed four hours each day. I worked afternoons, when called, in the Supply Room, where everything was kept and carefully checked out.

Mrs. Smith, with other women, sewed until there was a change of clothing for the sick.

We gave all kinds of clothing, two blankets, a quilt and a lantern to light the Camp until they could get the lights connected.

All in all, it was a pretty big task done cheerfully by all that worked, each one contributing her little bit. We all tried to make all those who came as happy as it was possible to do.

I think you will hear from all of our Auxiliary members. Each one had a different experience. I am asking each of them to write you.

We would be glad to have a letter from you telling us what you did during the Flood. We know from the Radio that you were really in trouble. We could hear them saying they were sand-bagging the Brown Hotel and the lights were turned off. So, we are still wondering what you did! I hope it never, never happens again.

Your friend,
(Mrs. W. S.) Zora Smith Stone.

Mrs. O. A. Eddleman, Benton

Dr. Eddleman and I hauled a few Refugees from the water's edge to the homes of their relatives. We had several Refugees as guests in our own home, too. These stayed with us until their friends or relatives could come and get them.

I sewed quite a bit, too. Outfitted one two-weeks old baby at Reidland as it had no change of clothes and it was badly in need of clothes.

Doctor delivered a couple of Flood Babies. He made 15 trips to Reidland and 25 or 30 calls on Refugees in private homes, along with quite a bit of office consultation and treatment of wounds, sores, etc., no record of which was kept.

I took several suits of underwear, three gowns and a couple of dresses to Reidland and gave them to the Red Cross Nurses for distribution. Clothing of all kinds was badly needed.

Doctor bought cigarettes and chewing tobacco and took them to the Refugees at Reidland. We also donated electric light bulbs and wire for Reidland lights when they installed the Delco light plant to have lights and water when the power lines went out of commission.

Mrs. L. L. Washburn, Benton

Reports a busy time with husband's office and residence calls. Every member of Marshall

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County Auxiliary donated quilts, blankets, sheets, pillow cases, towels, wash rags and old soft rags to Emergency Hospital. All families of physicians donated money and various useful articles to fill immediate needs. Mrs. Stone's mother, 87 years old, gave money.

Mrs. V. A. Stilley, Benton

Our home has been a busy place. There has been much to do for others outside our home as well. Our son and wife and baby from Paducah were with us almost two months. They lost all their household goods, including some beautiful antiques they had collected for their newly built home in Avondale. Fortunately the new home in the suburbs of Paducah, was uninjured.

Dr. Stilley was at work, early and late, in town and out through the County and District, as Assistant State Health Director. He divided his entire time in the eight Counties in the Purchase; supervising the Emergency Hospitals, typhoid inoculations and sanitary arrangements. With Dr. S. L. Henson, County Health Officer, he helped organize and develop the Emergency Hospital in the High School at Benton. 200 bed capacity. Here, Dr. Henson was on duty 24 hours daily for three weeks caring for all the many ailments and afflictions of the Refugees. Inoculations of typhoid serum were administered to all. Serum supply was a serious matter for much was needed for Hickman, Paducah, Mayfield and Murray centers, as well as at Benton. Dr. Stilley arranged with the State Department of Health for additional supplies when needed. Some came by airplane, some by boat.

Reidland is in McCracken Copnty but was entirely cut off from Paducah or physicians in McCracken County, Marshall had to take care of all the Refugees housed there in the High School building. Many of the sick were brought to Benton for treatment as we had some six or eight nurses on duty, here, only a few at Reidland.

One method of applying heat to chilled bodies of the sick was the old-fashioned method of heating salt and filling cotton bags. Many cotton bags, most of them long and narrow, were made by the swiftly plying needles of the women. These gave the same comfort as hot water bottles or electric pads. The grocers had quantities of salt.

At the C. C. C. Camp on Mayfield Road a Rufugee Center was organized and cared for 1,750 Refuges. 54 patients were treated at this Camp and, later, on February 19th, the Hospital was transferred from the High School to the Camp with 40 beds occupied as hospital beds, requiring from three to four hours, daily of Dr. Henson's time.

Dr. Stilley's daughter, and her husband, Mr. and Mrs. Cliff Treas, both worked steadily for Flood sufferers. Mr. Treas, as Chairman for the Red Cross, was responsible for the fuel, food supplies and bedding furnished the Refugees, all of which was obtained locally, until Red Cross supplies arrived later. Mrs. Treas served the trays at the Hospital for 35 patients for nine days.

Six Red Cross Nurses from Tennessee came and helped our County Health Nurse, Miss Gladys Solverson and her volunteers in the Hospital. Miss Rebecca Long, loaned by Dupont County, Tennessee, took the place of Miss Solverson as Superintendent during the three weeks at C. C. C. Camp when Miss Solverson was transferred to State Health Office to assist Miss East.

EXTRACTS: LETTER TO MRS. STILLEY

Mrs. W. T. Little, Calvert City

I have thought of you folks in Benton so often but there has been so much stirring, and that stir a full 24 hours each day, that I have not yet put any of my good thoughts or intentions in words on paper.

I was in bed with flu when the water started rising and I was still in bed when it got so high on January 24-25. But, so many drenching wet patients came to Dr. Little from the boats that with flu so prevalent, I just had to get out of bed several times and prepare medicines for them. Twice, I had to get up and dress injuries. Finally, on January 28th, I fully dressed, went into the office and started working right. From then until now (February 25th), I have been on the job, too, most of the 24 hours, daily, holding down the office for Dr. Little. I did a few errands for him, one at night, when he was so exhausted during that busiest time. I have not entirely recovered from the flu, yet, but guess I will make the grade when things settle down and the sun shines warm again. Dr. Little worked without ceasing, much of the time in hip boots, for many patients could be reached only by wading to them.

Well, I don't think I did so much to be bragging about compared to what you-all did in Benton. People were, some of them, afraid to come inside my home to stay—due to my flu. So, I did not have so many Refugees. But we moved the Barnes family (he is the man that works for us) into that nice little wash house built for the electric washer. Stove was in it and it was ceiled and I have used it for a summer kitchen for years. Gave them food from our larder, dishes and cooking equipment, quilts, blankets, a bed and fuel—wood. They occupied the wash house for three weeks.

We loaned several cords of wood to Refugees that had to leave their own wood behind and we gave numerous cases medical attention, free, of which we kept no record.

Dr. Little went to Reidland every evening and worked there from three to five hours without compensation You know his office in Paducah was submerged. All equipment, x-ray, etc., damaged, we fear, beyond repair.

We bought several dollars worth of food and sent to Refugees that were housed in the churches of Calvert City until they could be moved on to Refugee Camps.

I averaged giving 50 typhoid inoculations a week to people who missed the doctors and other nurses or could not wait for them to come. I went to Gilbertsville with Dr. Little to help him, riding on an open motor railroad handcar, through water so deep over the railroad tracks men waded in boots and pushed the car along. It was a solid sheet of water on each side of the tracks and highway was impassable.

I had several hot meals cooked for men building boats and for others manning boats in rescue work, as well as for nurses working here.

Two families of Refugees were housed at my sister's home. Her husband, a real carpenter, and Prof. B. G. Moore were the most active boat builders we had. Prof. Moore worked days and days until late into the night helping build boats, then going after Refugees, sometimes having to wade through ice and water in hip boots and carry people bodily to the boats. Sometimes, he had to break the ice to get the boat through. He helped build a ferry boat and get all the live stock out to higher drier ground. When a man would arrive who could handle a boat. Prof. Moore would go back to building another boat: soon, again, to be called to help man a boat that some one could not manage.

Mrs. Moore. Dr. Little's daughter, Mildred, served hot coffee and sandwiches to the men bringing Refugees landing at her doorstep from North Calvert.

All-in-all, Calvert City people worked hand-in-hand, helped each other in every way possible. We kept good order and had to ask for little outside aid.

We are forever indebted to Dr. Sam Henson, County Health Officer, and to Dr. Stiley and the Nurses from the County Health Department for the prompt and efficient medical aid they gave us. They knew what needed to be done and did it, without hesitation or preamble.

But, poor Smithland! Have you heard about Smithland on the Ohio? Nobody appears to pay any attention to Smithland, my own old home. There is no Medical Auxiliary there, no County Health Department to look after those folk so well as in our own County. Makes me sad and sorry for them. too. I was anxious to see about my father who lives a few miles out in the country, there, so I drove over last Sunday. Found father cheerful, high and dry but short on food and feed for his stock, and was glad I could help him with supplies. The town is terrible. Was submerged with 16 feet of water near the river. As bad as Paducah looks, Smithland looks much worse. Utter isolation and destruction. All the front levee wall of the town caved in, taking several buildings with it. More than half the town's buildings floated away or have collapsed. Almost no building remained on its foundation. Rubbish everywhere. And—the smell is awful!

There was but one drug store in town and the druggist did not believe the water would reach him, so, never moved a thing. Lost all.

Dr. Ewing Lunn, the only physician there, was handicapped without drugs for sickness was everywhere, mostly flu and respiratory diseases. A few days before the Flood, Dr. Dunn, a fine young man in practice but a few years, took his wife to Riverside Hospital, Paducah, expecting her to be confined soon. She, of course, was moved with the other Riverside patients, with no way of letting Dr. Dunn know her whereabouts. Anxious over her possible plight, he went to Paducah in a motor boat and was there, working among the Refugees for four days but found no trace of his wife. Distracted, he returned to Smithland on the fifth day and that night, through the radio, finally got word from her that she was safe and alright. Dr. Dunn did excellent work for the flood sufferers and deserves a hearty vote of thanks. Mrs. Dunn must have endured trying experiences, too. I have not seen her, yet, but hope to, soon.

CALLOWAY HELPS!

Mrs. E. B. Houston, Murray.

Dr. Jas. A. Outland, County Health Officer, served in all health avenues being the most active one in helping to get Red Cross Emergency Hospital organized, located and supplied with needed accommodations and helpers. He, also, helped administer the required vaccines.

Mrs. Outland served continuously in the Red Cross Emergency Hospital, aiding in serum injections etc.

Mrs. C. H. Jones, Auxiliary member, entertained Refugees in her home.

Dr. C. H. Jones treated Refugee Patients in "Keys Houston Clinic Hospital," also in the "Red Cross Emergency Hospital."

Dr. E. B. Houston hospitalized and treated Refugees in his hospital, "Keys Houston Clinic Hospital," and attendel patients in Relief Red Cross Hospital.

Mrs. Hugh L. Houston supervised feeding 85 Refugees in the Sedalia High School building.

Dr. Hugh L. Houston treated Refugee Patients in "Keys Houston Clinic Hospital," and also treated patients in the Red Cross Temporary Hospital established in the basement of the

Murray Baptist Church during the emergency.

Dr. Hal Houston served continuously through the Louisville Flood in the Surgical Department of the City Hospital, going to and from the hospital to his room in a boat.

Mrs. E. B. Houston aided in serving food to from 300 to 400 Refugees from Paducah, who were fed in a large factory (Overby's Bldg.) and were distributed clothes and money.

People are getting back in their homes at Paducah. The damages are appalling. Doctor and I have not been down there. We have been too busy.

It has truly been a tragedy, this Flood. You know this too well.

GRAVES COUNTY

Mrs. W. T. Vaughan, Mayfield.

Mayfield and Graves County extend a helping hand to our distressed Paducah neighbors in the most disastrous Flood this generation has known.

The entire population of Mayfield is showing its deepest sympathy for the stricken City of Paducah and in a substantial way with food, clothing, shelter and money for hundreds of Refugees. Mayfield's local doctors, graduate nurses, and practical nurses took care of the Refugees until radio calls later brought doctors and numerous nurses from Nashville and Memphis, Tennessee.

Saturday afternoon, January 30, Mayfield Citizenry organized for action. At a mass meeting, plans were made for raising $10,000 and all civic, religious, relief and other groups were put to work collecting supplies.

Refugees coming in by the hundreds from Paducah were registered at Legion Memorial Gymnasium and were sent to the local church, school buildings, court house, store buildings, and private homes. Men and women of the churches set up supply quarters, and kitchens to shelter and feed the Paduchans. In fact every thing was done to show that all the "sad world needs is kindness," and our little city was only too glad to be able to relieve suffering humanity.

A temporary hospital was established at Mayfield High School and Dunbar High (Colored), and all sick Refugees sent to these and cared for by local doctors and nurses until Red Cross Nurses and doctors arrived later.

Boy Scouts, teachers, veterans helped care for the Flood sufferers; also, National Guardsmen and extra police patrolling the town and helping sufferers in every way. Business houses offered their stocks to Red Cross officials and every precaution was taken to conserve the supply of food and other commodities. January 26, 3,000 Refugees in Mayfield! The Paducah paper for an indefinite time will be published at the Messenger plant in Mayfield.

In his message this morning Governor Chandler asked that all persons who are not affected by the Flood, do everything within their power to assist the stricken ones. He added that he was sure every person would.

Inoculation of all Refugees against typhoid fever was started by local medical leaders as an epidemic prevention. Dr. H. H. Hunt, County Health Officer and Chairman of the Citizens Medical Committee reported little illness among the Refugees. Health conditions are excellent; negroes are being cared for the same as white Refugees. Negro nurses are on duty at Dunbar High School.

Red Cross workers of Mayfield estimate 18,000 Refugees have been evacuated through Mayfield.

The grocers of Mayfield are not having an easy time keeping up with their stocks on account of tremendous drain upon them this past week. With no railroad facilities, much of the food supply, especially potatoes and meats and such, have been trucked in from great distances. Naturally the cost is more but our grocers are holding the prices as nearly normal as possible.

Mayfield is suppling 10,000 gallons of water daily to 5,000 to 7,000 people in Avondale Heights, Paducah.

EXTRACTS FROM FLOOD RECORD

Mrs. A. T. McCormack, Louisville.

Wednesday, January 20, 9:00 P. M. Dr. Arthur decided because of continuing heavy rains, to travel in A. M. by train, instead of motor, to Covington for re-opening ceremony, Booth Memorial Hospital at noon tomorrow.

January 21, 7:00 P. M. Dr. Arthur home from Covington, arriving on L. & N. 5:37 P. M. train, late because of high water. At Frankfort, Acting Gov. Keen Johnson left him, after trip in Mr. Johnson's car, water over the R. R. car wheels. Same in few other places along the way.

January 22. Bet. 1:00-2:00 A. M. Dr. E. L. Bishop, Medical Director, TVA, Knoxville, warning of report from Chief Engineer phoned Dr. Arthur warning that Ohio River is in biggest Flood; Louisville and all river cities in grave danger. "Paducah is doomed," he warned. Dr. Arthur relayed phone to Gov. Johnson and Quartermaster's Headquarters, Jeffersonville. They expressed doubt at Paducah warning. Dr. Arthur requested preparations for supply of tents, cots, beds and boats for evacuation needs. He also, phoned Dr. Thos. Parran, Surgeon General U. S. P. H. S., Senator Alben Barkley and Congressman Fred M. Vinson in Washington. Basements of Hotel and S. B. H. Building, filling with water. Dr. Arthur busy on phones — long distance calls — all day and night, warning officials, ordering preparations in County Health

Units. Warnings coming over radio that light, gas, elevator service in Hotel may be cut off. Candles distributed to rooms. Guests, many Louisvillians, crowding into Hotel. Kentucky Press Association, in session; many delegates unable to leave for home as roads impassable. Our "Isabella Dinner" called off. Difficulty in notifying some guests. Bought extra supply of food; groceries, fruit, vegetables, canned goods. Also Candles, new Camp Cooker (two holes) and paid 69c for 1 gallon gasoline for fuel! (19c for gasoline and 50c for taxi to get the plain gasoline.) Scrubbed the two tubs and drew full of water for future use, p. r. n. Water—backed up through sewer—all over most of the city;—necessitated moving everything up to first floor in Hotel. Part of this accomplished. Pumping out basement of Hotel by firemen. Sand bags used in quantity in basement.

January 23. Rain, Smog, Sleet, Snow, Cold High Wind. No sleep last night. Phones rang constantly. Deep distress all over Ohio Valley, acute in Louisville, New Albany, Jeffersonville. Ground treacherously covered with sleet and snow. Water rising rapidly in streets. Big pools on York Street. Collecting in P. M. on Fourth and Broadway. Phones are so busy, Dr. Arthur doesn't have a minute between calls. And I spend most of my time answering which ever phone he is not using! Telephone Company and all their switchboard operators are giving excellent service to him, although repeated requests for curtailment of calls has gone out over the radio. Dr. A. had unusual experience trying to get the U. S. Army Engineers and the Quartermaster Headquarters cooperating. Engineers could not get Quartermaster to answer the phone. Dr. A. had just talked with Q. Then, tried again and could not. Busy Signal. Again and again, the Busy Signal. Eventually, I got Chief Operator and told her of the necessity. Presently, she called with, "Here is your party." The Engineers were trying to get the boat, ready for Paducah, loaded with the supplies from the Q. M. Reported to A. that first boat got off Paducah early this A. M. Later report that it had not yet departed. New terror at Frankfort. Riot in Penitentiary as "water kept rising higher and higher in cells and prisoners, trapped like rats, about to drown."

Radio constantly giving most distressing news of plight of people. Broadcasts request use of water, electricity, telephones, be curtailed.

Water in S. B. H. basement. Began moving records and equipment to first floor.

Dr. Blackerby came for dinner and spent night on Dr. Arthur's couch.

"Gloomy Sunday," January 24. Smoggy, Rain. Continuation of yesterday's hectic and distressing experiences. Telephones and telegrams. Radios (2) WHAS and WAVE continuously broadcasting distressing calls "Send a boat to ————" so water surrounded people could escape to dry land. We keep both Philcos going—one in each room. Harrowing to listen to this but we feel we must keep it going to know what is happening. Amazing sight from our windows!

I want to get out there, with a bag in my hand, and go in a boat to that woman the radio announcer broadcast was alone and about to be confined; to the sick child choking for breath, to the old lady with the fractured hip who refuses to be moved. But, I find, there are many nurses in waiting, suitably equipped and in uniform, ready to take over this work, not yet assigned to duty. Doubtless, they can give better service than I, though, for in these years out-of-practice, I have grown rusty. So—like the shepherd that stayed at home to feed the flock, I'll do my home-work as best I can. Certainly, I am kept busy! Somebody must needs do it. Dr. Arthur cannot manage all these calls, alone. Needs his secretary, Mrs. Ruth Flagg. We wonder where she is—Safe, we hope.

Only church going evident is this awful water trying to get up the steps of the Warren Memorial Presbyterian. Hotel is completely surrounded by water. This morning, Broadway and Fourth Street look more like Venice than Louisville. Water is same dirty brown color, smells bad—as all sewage does—and orange skins and bits of flotsam ride by serenely with the current. Later in the day, boats, at first only flat bottomed boats, then all kinds, began to ply up and down Broadway and all the connecting streets. Islands appear in the most surprising places down Broadway. Hitherto un-noticed humps in the highway. After breakfast, Dr. Blackerby went to State Health Department Bldg. Several other members of the Staff also on duty. With help of WPA workers everything that could be moved from the basement was taken to the first floor of building. Sewage water backing in at rapid rate.

Dr. Arthur dictated order declaring Penitentiary at Frankfort a public nuisance and ordered Governor Chandler—now returned to Frankfort, having given up his vacation—to evacuate and abandon Reformatory as a public nuisance and remove prisoners to safe place. I wrote this for him and went down to Western Union stand on street floor—and sent it before noon time. Dr. Arthur phoned the Radio Stations and the newspapers. Soon, the broadcasting began on that subject. Harrowing!

Early in afternoon, Room Clerk phoned asking Dr. Arthur, "only doctor we can reach," to call on Refugee family from West Broadway now in room 1118, and see sick baby. Father, also, ill. Dr. Arthur so busy with important telephone calls concerning life and health of large numbers of people, asked me to make visit, in his place, and report symptoms. Found nice family—the Howard Stapletons. Father. suffering with sciatica—Dr. Maupin's patient—mother and four children. Dr. Lee Palmer's patients. Two-year old Patricia ill. Dr. Arthur said: "Apparently, developing mumps." He prescribed, following my report, and fortunately I was able to supply the few simple necessities and caution about isolation of patient. Mother understands isolation. Family making brave attempt to camp cheerfully in close quarters under difficult circumstances. Have small supply of milk and food, kept mostly, on window ledge for refrigeration.

Mrs. Rumpel's daughter and her family are Refugees at Brown. I was glad to give her some Phillips Milk of Magnesia for her baby and some aspirin tablets for her husband when she called. They hope to get away to Florida, tomorrow.

Service at the Brown greatly handicapped as maids and men, marooned and unable to get in for work. Some here unable to return home since Thursday night, have been greatly overworked by the tremendous demands of this overflow house. The Kentucky Press Convention brought many guests not yet able to return to their homes because trains are canceled and highways closed. Numerous Refugees from West End have flocked in here. Effie, eleventh floor maid, marooned. Amelia, colored, bath maid, has been doing Effie's work as well as her own. Frances, from lower floor, came to help Amelia. Frances, tearful and in deep distress. Had not been able to reach home since she left for work, Thursday morning. Radio announced last night that her neighborhood must be evacuated. Such anxious, agonizing hours! Has no idea what has become of her 10-months-old baby left in care of nursegirl of 17 years and her sick brother who was expecting removal to City Hospital for appendix operation. Poor mother! She is but a child, herself. Hope I helped her and gave her the right directions and that she will soon hear that her baby is safe; and her brother, too.

(N. B. Later found that baby was well-cared for and brother was taken to Hospital where he recovered.)

State Health Department was established in our apartment, two rooms—1114-1115—between 4-5 P. M. A few files, some supplies and typewriters came with Dr. Blackerby, who continued to occupy couch in 1114; Misses Margaret East, Director of Nursing, Miss Elva Grant, Director of Finance. Miss Mayme Sullivan, Chief Clerk, Miss Charlotte Taylor, and Mrs. Nell Sullivan, stenographers occupying room 1118, after considerable arrangement and moving of other hotel guests, to accommodate office staff and facilitate work. Thanks to the rest of the turkey, cooked for the Isabella Dinner but now doing Flood Duty, I was able to give them a buffet supper of cold turkey, hot dressing and gravy, salt rising bread, endive salad, canned peaches, cookies and coffee.

Food is a real necessity for people doing this kind of harrowing work. Just wish I might continue to feed the members of the Staff all their meals, while here. But—I do not have the food supplies on hand, unfortunately, for so large a family. And—the Hotel is keeping the Grill open for three meals, daily, so they can have their meals down stairs. Such a crowd of people in the Hotel, though, they may have to wait sometime to be served. But—they will go early, I expect.

Electricity off at 11:45 P. M. Distressingly quiet, at first. Yet, 'twas a little relief not to hear those monotonous harrowing requests "Send a boat to————." Then, after a few moments of relief, we were even more distressed not to hear the broadcast and not to know what was really happening! However, we did get a little more sleep, although the telephones continued to keep on ringing. We wondered when they, too, would cease. No elevator. No gas. Rationed water, now. No more baths.

January 25: Rain. Water creeping up the steps of Warren Memorial Church. Boats are plying up and down Broadway and Fourth Street. Mostly, loaded with people, black and white, that have been rescued from water-filled homes. Three Catholic Sisters with little bundles seemed, at first to me, strangely out of place. Yet, always, when there is human need you find the Church in action. Some boats have boxes, cans, etc., filled with supplies. Many of the boatmen seem unfamiliar with their craft. Current at Fourth and Broadway is strong. Many have difficulty in getting around the corner, also, in getting into the alley, between Muth's and Friendly Shoe Shop to reach the back door —Delivery Room—of the Hotel, our only entrance and exit, now. Have to walk a plank, too, to get out for water is over the floor. There is a deep ditchful of water surrounding the entire Hotel, narrowed down somewhat at this back door which seems to be on higher ground.

Prepared breakfast for Dr. Arthur, Dr. Blackerby and me on the new Camp stove. Works well. Had boiled coffee first time for a long while. Also gave them soft boiled eggs, after their orange juice, salt rising bread and butter, raspberry jam. So glad to have bathtubs full of water. None in taps or toilets. So glad to have candles. Corridors and stairways dark except for wee candles, one on each landing.

Conference of Health Officials scheduled for 9:00 A. M. including Dr. Robert Oleson, and Mr. John K. Hoskins, Civil Engineer, both from U. S. P. H. S., Mrs. Charlotte Heilmann, Director of Nurses, A. R. C., Dr. John Trawick, Jefferson County Health Officer, Dr. Hugh R. Leavell, City H. O., and our own S. B. H. Group, including Dr. Fred Caudill, Epidemiologist. Dr. Leavell and Mrs. Heilmann had not been able to get breakfast. So—I hurriedly provided coffee, eggs and bread and butter.

Great relief to have Dr. Blackerby and members of the Staff to help answer the telephones and the door and to make notes. Lot of it to do. And—our India-rubber apartment-home is certainly having its elasticity tested! Fairly bulges and overflows into the hall, at times! At night, the shadows are fascinating in the candle light.

Miss Grant became so concerned over her parents and Winona Drain and their possible plight that she, with Miss Taylor, departed in a boat, about 9:30 A. M., to look them up. We waved to them from our Broadway window. After transfer, at the Cumberland, to another boat, Miss Grant went on and we have not heard from her since. Miss Taylor returned in P. M. Uncertainty about folks whereabouts and safety is distressing. We are anxious about many. Particularly, Jack Kelly at the Weissinger-Gaulbert and Otho. We cannot seem to get any word of either. Yet, the Weissinger is just across from us on Broadway! And—where are all our other staff members?

Prepared lunch for Dr. Arthur and Dr. Blackerby. (Turkey hash and coffee, hot) Camp stove is a joy to work with except for the awful smell of gasoline. And—my constant fear of using it indoors! Wish I could be hospitable and serve them all!

First casualty. Miss East fell on stairway. A kind woman, a Refugee with her family from West End, took her into her room and cared for her on bed. Dr. Arthur, through Dr. Leavell, had ambulance called to take her to City Hospital, after Doctors had examined her and given first aid. She of course, did not want to go to hospital for she realized how greatly she was needed for nursing set-up in this mobilization work with Mrs. Heilmann and the Health Department. Walked down the ten flights, and over the ditch on the plank at the back door and into the ambulance. Diagnosis was fractured right scapula; concussion of skull; badly shaken and bruised. Heavy handicap for Dr. Arthur to have this valuable Bureau Head disabled.

So many telegrams! So many telephone messages! Poor bell boys and telegram boys. They have to walk that ten flights of stairs so often with those pieces of paper, most of which carry important and hurry-up messages.

Ann Derway and I walked up to the Roof—16th floor—and looked over the city. Sanitation big problem. Bucket brigade, all able bodied men in hotel, organized. Buckets of water from alley—that vile backwash from city's sewers!—dipped up and passed from hand-to-hand to top floors, then down in succesion, until all toilets flushed. Furnace out. No more heat. Pumps still at work. But—income is greater than outgo from this mixture of Ohio River and sewage!

Tuesday, January 26. More of the same. Cold adds to our distress. This water creates a damp cold that penetrates to the very marrow. Wool clothes are the greatest comfort. So glad I have this heavy blue knit dress. Blessings on thee, Mella! And, grateful thanks. And—Arthur's wool socks are a joy! Wear 'em over my silk hose. What-fickle no'accounts silk hose are in the cold! Boats, so many of them and each seems to be different—oars, paddles, motors on every type of craft; few rough rafts, too—only transportation in sight. Automobiles, parked on Broadway and other streets are almost, some entirely, submerged. Mail boxes and trash cans tipped or overturned. Water climbing higher up the steps in its attempt to get into Warren Memorial Church through the doors on both Broadway and Fourth. Dr. Arthur appointed State Flood Director by Gov. Chandler. Oh dear! More burdens for him!

Thanks be for my store of food. Able to provide good meals, well-balanced for Dr. Arthur, Dr. Blackerby and myself, with an extra for unexpected guests here for conference. Camp stove went on a strike. Valve plugged. Or, something. But—praise be for the emergency provisions of the State Board of Health! Dr. Arthur has some oil heaters. Two were fetched to our apartment for warmth. I found that water in basin on top of heater, if covered, will boil. Hurrah! Then, I knew I could cook on the oil heaters. And—so I did! And—of course, heated water for dishwashing. Thanks be for the bath tubs full! But—how long must this last? Oh! And these old candles that I've saved—the pieces of them are just as good as new candles. And—we need a lot of them! Dr. Arthur aided by other health authorities—expert lot of them here from everywhere. Dr. W. K. Sharpe, U. S. P. H. S. representing the Surgeon General here.

All in a dither over the newest attempt, well-intentioned of course, to give us water in the toilets for flushing. And—justly so, until all guests had been warned **not** to use water in faucets for anything. Water unsafe. Diesal engine at work in alley pumping vile water into the entire water system of the Hotel, water from the alley at the back—just sewage diluted by the overflow of Ohio River back-up into the sewers of the city and flowing all about us, filling hotel basement and up on first floor! So—much indignation at this possible wholesale inoculation of typhoid, dysentery, and other possible evils (comparable to the disastrous Chicago epidemic of amoebic dysentery during A Century Of Progress after some cross connections with sewers had been, inadvertently made, in a few of the best hotels). Visions of wide-spread epidemics and deaths, with law-suits and exhaustive expense to the Hotel and other evils, loomed large. So—the house was soon filled with eager, earnest men intent upon giving the best possible health service, trying to determine how to avoid any danger through this surprising use of the flood waters. Mr. Graham Brown with Mr. Harold Harter, Hotel Manager, Dr. Robert Oleson, Mr. Hoskins and others. Eventually it was all arranged and soon under the personal supervision of Mr. Hoskins, C. E., U. S. P. H. S., the Brown Hotel had "sealed" every faucet—by the use of heavy twine—and a prominent notice warning against the use of water in the faucets.

Oh! we had great excitement that night, when the water was first turned into the circulation system. Pressure, I understand, was supposed to be 125 lbs. but, a mistake was made in turning the valves and 350 lbs. was turned on. Whew! the fire hose near our door blew out! And—looked like we were going to have a flood from above! Took several minutes for bell boy to get hose out the window of the service hall, sending the water into alley below, and several more before the pressure was turned off and we could begin to mop up the deluge. Made a lake in front of our apartment entrance.

Daily, Hotel furnished a glass gallon jug filled with distilled water, strongly flavored with iodine, for drinking water in each room. This came from the Oertel Brewery. And—we were most grateful for that. (Later, the ration was cut to 1-2 gallon for each room.) I used the bath tub water—boiled—for drinking and cooking and the distilled water with the iodine flavor for dish washing. My! what a job it was to get the dishes washed! So little water. And—so hard. All caked in a scum when I used soap. Finally, Ann Derway gave me some Oakite—a sample package—and that softened the water like magic. Easy on the hands, too.

Thousands of Refugees have flocked from Shawnee and Magnolia districts to Concentration Camps. Big one at Armory under supervision of Jefferson County Health Department. Thankful that Highlands and Crescent Hill are still high and dry.

January 27. A beautiful day for a change! A gloriously clear, bright sunshiny day such as we have not seen in Louisville for ages! No smog! The sky is as beautifully blue as in Italy! But, when we look down! What contrast! Ruination! We find the water, vile, smelly, filthy brown water rising higher and higher. Better look up, all of us!

Cooked breakfast on the oil heater. Slow process. Served Dr. Arthur, Dr. Blackerby and myself with grapefruit, broiled ham, scrambled eggs, beaten biscuits and coffee. For lunch, I cooked country sausage; also, carrots and celery together. Mashed the vegetables, only fresh vegetables, I had, and they were good! Served beaten biscuits, apple salad and coffee with these for us three. By keeping kettle of water heating on oil burner, I can always have hot water food warmers. This gives opportunity for more than one hot dish for meal. Makes me feel akin to Columbus, discovering this new world-in-cookery! Folks all said I could not cook on the oil heater. But—here we are having hot meals!

Telephones busy constantly. Both Dr. Arthur and Dr. Blackerby talking every minute and I have to dash in from kitchen, or from whatever I am trying to do, to help them. We have three telephones and an extension, giving us four receivers to answer—two in each room. Last night, Dr. Arthur undressed and got into bed about 12:30 A. M., with our private phone within reach on one side of the bed and a Brown Hotel phone on the other side. Could not sleep. Just had to turn from one side to the other constantly with me holding one call while he finished with the other. Turned so often that he, laughingly remarked: "If this thing keeps up, I'm going to need half-soling! Feel as if I'd worn a hole through my turner, already!" Sleep has been somewhere else, far from us, this last week.

Telegrams come in bunches! Singly, too. But, mostly in lots. And, every few minutes. Poor messenger boys! And, Brown Hotel bell boys! They have many weary long climbs up to this eleventh floor with more bad news. Good news, though, sometimes, of help from all imaginable sources. Laboratories offering typhoid, and other biologicals; airports offering airplanes and aviators; radio stations offering air lanes; Gloucester, Massachusetts fishermen offering boats and sailors; physicians, nurses, sanitarians, health departments offering their every type of service and equipment; police, firemen, all the crafts—such as carpenters for boat-building and electricians, etc.—beside National, State, County and City governments generously offering their all to help our distressed people. Such a country-wide out-pouring of Good-Will! A veritable mass demonstration of the spirit of the Good Samaritan, it seems to Dr. Arthur and me. If we just had time we could be quite touched and emotional about it. But—we have work to do and this all just fits into the pattern, so, we gratefully accept and adopt and adapt. And—keep on keepin' on!

Mr. Everett Dix, flood director for Red Cross, arrived just as we finished breakfast for conference with Dr. Arthur. Dr. Oleson and Mr. Hoskins, too, and soon our wee apartment was full of serious, earnest, intent health and welfare experts endeavoring to find the best way to cope with the existing situation and to forestall possible ensueing dilemmas. Such a help to have the Sullivans and Charlotte Taylor to take notes, help with the phones and answer the door!

Cold in our apartment—which I have to pinch myself to make me realize is not just our apartment, unusually filled with folks; but is, actually, at this time, the State Department of Heath Headquarters. Our poor old Building at Sixth and Main! Whatever is happening to it? When can we get back to it, again? Will the records and Dr. J. N's. portrait be destroyed? These two oil heaters, though, do help take some of that deadly chill off. Thanks be, for these.

Charles Cowan, air pilot, called with E. Sherman Chase, Consulting Engineer, brought from Boston this morning. On his way back tonight, through Buffalo, kindly promised to send a telegram to Mother. A distracted message from her, anxious about us and asking that we come home, reached me this morning. Surprising, for few personal inquiries are being delivered right now, more important wires having rightful precedure. Oh! I must record that many kind friends have offered their homes to us. Here, is where we belong though.

Dr. Arthur announced, about 2:00 P. M., that we would move, at once, down to room 410 and that Mr. Jim Blackerby was setting up office headquarters for the combined State Department of Health and the State Flood Director on the third floor in Parlors ABC. Dr. Blackerby with Dr. Sharpe would continue to occupy our apartment, going down to the Brown Grill for their meals.

So—I began to pack and get ready to move to the fourth floor. I was grateful that folks would not have that long climb to reach Dr. Arthur and that he would have more room for his increasing work and with additional telephones which the Telephone Company was heroically installing. What amazing work those telephone people do in emergencies! They are giving admirable service in this catastrophe. However, it was after 4:00 P. M., before he could leave the telephone to move downstairs. I took very little. Merely, our night clothes and some cooking equipment, food and dishes for I determined to continue to cook on the oil heater and feed my man in an effort to keep him well during this seige. There are few essentials for Dr. Arthur. But—food, plain, simple, wholesome food, is his one great need. I know how to give it to him. If he must, in this time of stress, carry additional responsibility and the huge burden of State Flood Director, along with his tremendous load and obligations as Health Commissioner, when possible, yes, probable epidemics of ghastly proportions are in view, then, one of the real jobs to be done is that of keeping him well, strong and fit for his job. This is my niche. And—here I'll work. But—the call of the nurse continues to haunt and hound me.

Ann Derway, bless her, alone on the thirteenth floor while her husband, Herbert, keeps the Ewing-Von-Allmen Dairy running, offered to do some marketing for me today and also gave me some food from her larder. I really have not had time to go out. She walks the plank over our moat in the back alley and can get to several stores between Chestnut and Main Street on that big dry island in our lower business section where the streets are dry but basements filled.

Room 410, with bath and closet, our new home, is just one of the regular bedrooms, containing twin beds, a dresser, a desk, two chairs, luggage stand and very little extra room to move about. We brought our oil heater down, too, and I wished, with great longing, for the good water in the bath tubs, now alas, but partly filled. And, after established, I, of course, thought of many things I wished I had brought to add to our comfort. (More than two trips a day back to 1114, I rarely made for it took all my breath to make that climb. One of the bell boys suggested that I go up backwards, a part of the way, at least, and I found this actually easier).

Clinic for typhoid inoculation at end of hall, established in room 416 by State Department of Health, is kept very busy. Not only occupants of Hotel but others, also come here for immunization.

We are all very anxious about Hazelwood. (State TB Sanitorium) Last news we could get was that the water shortage was acute. No lights, no telephone, of course. And—what about heat? And, food? Those patients need much. But—the Turners will find a way, if there is a way to care for them, we know.

For supper, prepared and served in our new Flood Home, Room 410, we enjoyed turkey hash —blessings on the—turkey-prepared-for-the-Isabellas—beaten biscuits, apple sauce, crackers and cheese with tea. Had paper napkins but no table cloth. Fresh laundry, a thing of the past. Used the funnies from yesterday's newspaper for a table cloth, (—in fact, these with careful usage, lasted several days) making believe we were children and liked colored table clothes best. Dr. Arthur's favorite suit case, a light fabric one that his father used to carry, served as our table when laid on the luggage stand.

Seems queer, down here so much nearer this dank, filthy, fearsome water! Fourth Street is so close, yet the street, itself is not visible unless I peer out over the window ledge and look down past the Mary Anderson. Just one vast stretch of water from beyond the Auditorium, as far South as I can see, almost to Chestnut Street. And, so quiet! Usually, this is such a noisy place with street cars, automobiles, news boys, traffic whistles, etc. Now, a deadly stillness, particularly, after dark for few boats ply here at night. Oh! but how beautiful the stars shine! And, later, when the moon came out, I found the silhouettes of the buildings and of the spire on Warren Memorial Church together with the shimmer and shine on the water, quite as entrancing as any beautiful scene anywhere in the world although I realized that underneath this beauty lay dread and destruction.

Rather terrifying few minutes when kerosene lamp was brought to supplement the light of our candle! Flame got down into the bowl of the lamp and I feared an explosion. Had Leon, volunteer doing Otho's work, put it in bath tub. We tried to smother flame. Could not. Called for help in hall and collected huge crowd in no time. Real commotion. Bell boy came with fire extinguisher and put it out. Whew! To set the hotel on fire would not add to anybody's joy or comfort!

Hotel has been, and still is, packed with people, many of them camping, whole families, sometimes several families, together in one room. Window ledges are strange sights; filled with bottles of milk, drinking water, packages and paper sacks and boxes of all types of food. And—pets, galore! Dogs of all sizes and descriptions, yet dogs are not, ordinarily, allowed. I met eight on one landing, held by leashes of their owners, on first trip to 1114! Of these two were great big police dogs! Such turmoil! Poor Mrs. Smith, the Brown Housekeeper! And—the maids! Must hurt to see their beautifully kept rooms and halls so cluttered and messy! They and the whole Brown Hotel staff, have done and are still doing valiant service throughout this whole catastrophe. Nobody knows the total number of persons in this hotel over the past weekend. Seemed as if the whole world had decided that this was a sort of Gibraltar and flocked here for safety. And—now look at us! Water deep all around us and up to the fifth step on the first floor where I can see through the windows of the Studio Den Gift Shop, gay birthday and congratulatory cards of all descriptions floating about in a vain attempt to fulfill their destiny and carry cheery messages to some one.

January 28–and–A little more sleep this night but the telephone, having kept up with our whereabouts, rang often and we were up at 6:00 A. M. to begin a new day with the headquarters of the State Department of Health and the State Flood Director no longer in our small apartment but located in Parlors ABC on the third floor of the Brown Hotel. Here, with several additional rooms, gradually added—as our Staff members gradually returned, all of them, praise be!—they continued until, Monday, February 15th, when they were moved to the present temporary quarters in the Louisville Hotel, Sixth and Main Streets, across from the old State Board of Health Building, condemned as unsafe for occupancy. Where do we go, next? We wonder!

If you only knew how many of your alert friends and fellow-citizens of middle age had tuberculosis in early life, you would understand why doctors insist that the disease can be cured.

HYGEIA
Goddess of Health

Mrs. C. C. Turner, Glasgow

I am sure time can not be spent to a better advantage than selling Hygeia to the public. This is a large task, one that can't be accomplished this year or next, so we should muster our forces for a long hard drive, and if we interest the public, we will first have to begin at home. We must get every Auxiliary member to subscribe. At our last meeting we talked Hygeia and all who are not subscribers pledged themselves to subscribe when we can again have rates. So we feel encouraged. With a little more time, we hope to have Hygeia as popular as "Gone With The Wind."

News From The Counties

GRAVES

Miss Ruth A. Zercher and assistants, all Red Cross case workers from Washington Headquarters, set up quarters on the west side of the Square here.

The Mayfield Canning Company is being converted into quarters for white Refugees now in the rural schools of Graves County. Four or five hundred persons will occupy the Canning Factory.

Through Red Cross Recreational Services programs are being put on for Flood Victims, and work which is unsurpassed, being done with Refugee children.

Miss Ann Warren, area supervisor of social workers in WPA in this district, returned home last night from Louisville where she was sent by WPA for Red Cross training. Miss Warren has been assigned to Smithland to take care of the Flood disaster.

Miss Florence Wyman, the guest speaker at the Woman's Club reviewed the book "An American Doctor's Odyssey" by Victor Heiser, M. D.

The Mayfield Lions Club, co-operating with the American Social Hygiene Association, will observe National Social Hygiene Day, Tuesday, February 2.

Dr. and Mrs. M. W. Hurt and son Tom, who were called to Tampa, Florida, a week ago on account of illness of Mrs. Hurt's father, F. M. McCain, are expected to return home by the end of the week as Mr. McCain is much improved in condition and will remain in Florida for an indefinite stay.

JEFFERSON

Due to the recent flood the Auxiliary had to postpone several meetings. Our members, however, have been quite active in caring for Flood Refugees. Numerous homes have extended a welcome to those in need.

The Sewing Unit has only had one meeting scheduled. However, some of our members have been sewing for those in need of clothing, particularly babies, when the call went out for help.

On January 12th, Mrs. D. Y. Keith entertained the Sewing Unit. An enjoyable and a busy day.

Dr. and Mrs. Robert F. Monroe and daughter, Anne, left Louisville March 11th, for a two weeks trip through Virginia, North Carolina and Eastern Tennessee.

SAMSON COMMUNITY HOSPITAL

Mrs. Ray's son, Douglas, was one of the supervisors of the task of moving the government gold supply to Fort Knox.

Mrs. Roxie Perkins of Albany is attending pharmacy school at Atlanta, Georgia.

Mary Depp, daughter of Dr. and Mrs. Depp of Hiseville is finishing nursing training in the General Hospital, Kansas City, Mo.

All are hoping for the rapid recovery of Mrs. James Dixon, who was struck by an automobile.

Auxiliary members extend their sympathies to Mrs. Fielding Boles, whose mother died recently.

Friends of Dr. and Mrs. W. A. Weldon are eagerly watching the progress of the model farm and country home which is being constructed at Goodnight Kentucky.

As the meeting closed each member was requested to keep in mind the next meeting to be held in June, when new officers are to be elected and dues collected.

CANCER CONTROL

Mrs. J. D. Hancock, Louisville, State Chairman

A WAR TO SAVE HUMAN LIFE

William Potter Peak, Louisville.

Age 14, 9A Pupil, Highland Junior High School

Without guns, without uniforms, without poisonous gas, a war is being launched. The Big Bertha of this war is education against one of the greatest menaces of life: Cancer. The first national drive against cancer is indeed a war to save human life.

You ask, "Who are the soldiers?"

The Women of America!

For many years, the men scientists and physicians of America have tried to find the cause and a cure of cancer, but just recently have the women joined the fight. In 1913, The American Society For The Control of Cancer was formed in New York City, but just since March 21, 1937, have the enlistment roles been open to women.

Who Is The Enemy?

The powerful and deadly disease cancer. Cancer kills 140,000 persons each year. One half of these could be saved if they sought medical treatment when the cancer danger signals appear. Its allies, ignorance and fear, are strong and cruel. The number of deaths is three times as many as are killed in automobiles, accidents, nearly twice the number who die of Tuberculosis, and more than ten times those who die of old age.

In the World War, 126,000 Amerian soldiers were killed, or died of diseases. Nearly twice as many die of cancer each year. Wisely have we acted to prevent automobile accidents, to care for Tuberculosis patients and to end wars. Likewise, the Women's Field Army is acting to control cancer, now exceeded only by heart disease in its death toll.

The control of cancer has three fields, each dependent on the other, as are the legs of a tripod. They are popular education, professional education and organization for treatment.

The idea that cancer is contagious still prevails among people in general, to some extent, among physicians; in spite of lack of evidence to support such a theory. Among the countless contacts of physicians and nurses with cancer patients, throughout the entire history of the disease, not a single instance of infection by such contact had been reported.

Another obstacle in the serious attack of war on cancer is that many ignorant and some intelligent people still believe that cancer is a hereditary disease. The fact that cancer has been in your family, does not mean that you are going to inherit the disease, but scientists do believe that you will be more susceptible and should watch even more closely for the danger signals.

Why a woman's army?

Because women suffer more from the disease, and because the types of cancer that strike women the hardest, may in 70 per cent of the cases, be cured if taken in time. And also because women are the natural guardians of their family's health.

What are the weapons?

The way to fight cancer is with knowledge, which means that the best method known is to tell people in simple language, the early symptoms and urge them to go to their family physician at once. They will find more often than not, that the trouble is not cancer at all, and so will have their fears relieved.

There are thousands of men and women who have a secret suspicion that they have this disease, yet will not take the necessary steps to find out. They do not have the courage to face the truth. If they do not have cancer, the truth will relieve them of the fear. If they do, the discovery may save their lives.

Medical knowledge is yet in its infancy in regard to the cause, and treatment of late cancer. The only hope is in early diagnosis and skillful medical attention.

The ancient Egyptians were familiar with cancer. The very earliest writings of India mention it. Probably the most primitive races of man were afflicted with it.

If then this disease is so old, think of how many people have died from it. So, The Women's Field Army has decided to do something about it. They have enlarged the war on cancer. There is no draft in this war; all enlistments are voluntary, but mobilization orders have been sent out.

The war is on! There can be no turning back. The Women's Field Army is marching—marching under this slogan

Early Cancer is Curable;
Fight it with Knowledge!

JANE TODD CRAWFORD FUND

The Treasurer, Mrs. Luther Bach, Bellevue, reports a donation of $3.82 for the Jane Todd Crawford Fund, sent by the Breathitt County Auxiliary. We are glad to have this new County Auxiliary sharing with us in the Jane Todd Crawford Project.

Two-thirds of all the deaths from tuberculosis occur before the age of 45.

The child who does not learn health habits at home must be taught them at school or pay dearly for ignorance.

ORGANIZATION CHAIRMAN SPEAKS

Mrs. J. Paul Keith, Louisville.

Now that our special work is over for most of us, it seems a good time to be planning for our organization work. Here we should like to see some effective work done to stimulate interest in this work among our doctors' wives.

The object of our Auxiliary work is to extend the aims of the Medical profession, through the women members of families of physicians to other organizations which look to advancement in health and education; to promote acquaintanceship among doctors' families that local unity and harmony may exist. We feel that such an organization as ours can be of help in any community. If the President of your County Medical Society wishes the women to have this organization, will you not send your message to your First Vice-President, State Chairman of Organization, Mrs. J. Paul Keith, 2206 Boulevard Napoleon, Louisville.

PROCEEDINGS OF THE FOURTEENTH ANNUAL MEETING OF THE WOMAN'S AUXILIARY TO THE KENTUCKY STATE MEDICAL ASSOCIATION, HELD AT PADUCAH, KENTUCKY, OCTOBER 5-8, 1937

(Continued from January Issue)

ANNUAL REPORT 1935-1936 OF THE EDITOR

Kentucky Medical Journal—Part II—Woman's Auxiliary Section

With the October 1936 issue off the press, the Kentucky Medical Journal—Part II—Woman's Auxiliary Section (familiarly known as The Quarterly) completes the fifth full year of publication. We are five years old. Going on six! Still very young. But—aging. And—let us pray that with age, will wisdom grow. We have much to learn.

Interest in our publication, from outside Kentucky, continues.

The Kentucky State Medical Association yet stands alone, as the only State Medical Association that has conceded such privilege to its Auxiliary. We, members of the Woman's Auxiliary to the Kentucky State Medical Association, are honored. Do we realize that we are honored? And, that, with it goes responsibility? Are we measuring—up to the high standard accorded us by these men of ours—the members of the Kentucky State Medical Association?

Briefly, let me summarize the contents of the 1936 volume:

Advertisements of course. They are the life blood of most publications.

More of our members are writing for the Quarterly. (More of these, later).

Four numbers have been issued, January,

April, July, October—as in previous years. 32, or more, pages contained in each issue.

140 pages—a total for the year—4 pages more than in earlier years.

Contents of these pages include:

Proceedings of the 13th Annual Meeting

Directory of:
State Officers and Committee Chairman.
National Officers and Committee Chairmen
Southern Officers and Committee Chairmen.
County Officers, Committee Chairmen and Members.

Constitution and By-Laws.

Auditor's Report of all financial funds and transactions.

Index of entire volume—cross index.

Articles, reports, instructions, stories, poems contributed by:

39 of our members, including 3 poems.

8 different Counties sent News Items, not listed in the above.

2 Officers of the American Medical Auxiliary.

1 Officer of the Southern Medical Auxiliary.

3 Members of the Kentucky State Medical Association.

Several outside friends.

Illustrations, aside from advertisements, total 11. This is an increase in illustrations and includes two originals: Pen and Ink Sketch by Dr. Curt H. Krieger, Louisville; a wood-cut by Mr. Grover Page, cartoonist for the Louisville Courier-Journal.

The subjects featured regularly include, when copy arrives on time:

A Message from the President.
Cancer Control.
Child Health and Welfare.
Editorials.
Historian's Corner.
Jane Todd Crawford Page.
News From the Counties.
Radio News.
Tuberculosis Prevention and Control.

Other topics desired for regular feature include:

The Doctor's Shop—For record and promotion of its development.

Hygeia.

Public Relations.

Concisely, I have outlined the contents of Volume V of the Kentucky Medical Journal—Part II—Woman's Auxiliary Section, familiarly, affectionately known as, The Quarterly. How can we make it better, more creditable? How measure-up more fully to what the Kentucky State Medical Association expects us to present through the special privilege they have granted us in publishing a Woman's Auxiliary Supplement of their own treasured, time-honored Medical Journal? Your constructive suggestions will be welcomed.

ANNUAL REPORT OF THE BUSINEESS MANAGER OF THE WOMAN'S AUXILIARY SEC-TO THE KENTUCKY MEDICAL JOURNAL

October 4, 1936

A Business Manager's Report has to do with figures and finance principally: both are commonly thought to be cold and prosaic, lacking all the elements of human interest. However, in the record and summary of this year's report they lend themselves readily to an account of vital and human interest. When I recall how persistently eleven faithful women worked in the Autumn of 1935 to procure advertisements for financing the Quarterly, I grope for words to express my admiration of their interest. They had their moments of discouragement, doubt and changing moods, but did not relax their labors until the goal was reached.

We are proud to present our "Roll of Honor:"

Mrs. E. A. Barnes, Samson Community Hospital	1 advertisement
Mrs. David Cohen, Louisville, Jefferson Co.	2 advertisements
Mrs. Wm. H. Emrich, Louisville, Jefferson Co.	8 advertisements
Mrs. Ruth Flagg, friend at State Dept. of Health	1 advertisement
Miss Margaret Flynn, friend at State Dept Health	2 advertisements
Mrs. Geo. A. Hendon, Louisville, Jefferson Co.	9 advertisements
Mrs. A. T. McCormack, Louisville, Jefferson Co.	19 advertisements
Mrs. S. C. McCoy, Louisville, Jefferson Co.	1 advertisement
Mrs. J. C. Rogers, Louisville, Jefferson Co.	4 advertisements
Miss Mayme Sullivan	1 advertisement
Miss Mayme Sullivan and Mrs. Ruth Flagg also procured	1 advertisement jointly
Miss Simone Thompson, Louisville, Jefferson Co.Co.	1 advertisement

These eleven (11) women procured fifty (50) advertisements.

A new High has been reached in donations; to those who solicited and to our steadfast perennial and new friends, we are exceedingly grateful for making this the "Banner Year." These donations come from seven counties in Kentucky; friends in Jefferson County, alone, donated $93.00, and $4.00 came from outside our State.

As this report clearly shows, Jefferson County has borne the greater part of this job of financing the Quarterly. It is true that here the membership is greatest, but the benefit received from our publication is enjoyed by one and all alike. Each year, when October rolls around, the Quarterly's Staff is confronted with the same thought: "A better way to finance our publication." You may know a better way; let us know your mind on the matter.

Please see Exhibit "F" in the Audit for a detailed list of donations.

The following is a summary of this list:

Ballard-Carlisle Co., Woman's Auxiliary	$ 2.00
Calloway Co., Woman's Auxiliary	2.00
Calloway Co., individual donations ($1.00 received since Audit)	2.00
Graves Co., Woman's Auxiliary (received too late for Audit)	2.00
Jefferson Co., Woman's Auxiliary	10.00
Jefferson Co., individual donations ($6.75 received too late for Audit)	83.05
Marshall Co., Woman's Auxiliary (received too late for Audit)	1.00
Perry Co., Woman's Auxiliary	5.00
Perry Co., individual donations	1.00
Warren Co., individual donations	12.50
From the States of Indiana ($1.00 received since Audit)	2.00
Texas	1.00
West Virginia	1.00
Total donations received from Aug. 1935 to Oct. 1, 1936	124.55

If you have not seen the Auditor's Report in this current October Quarterly. you have an interesting study in finance awaiting you on your return home. Briefly I shall summarize this report:

From Aug. 1, 1935 to Sept. 1936, collected from advertisers			$1,095.51
Donations			112.80
Commission on Ads in K. M. A. Journal			14.34
Receipts for 1935-1936			$1,222.65
Balance on deposit in Liberty Inc. & Trust Co. Bank, Aug. 1935			238.33
Total Receipts for 1935-1936			$1,460.98
Expenses of publishing Quarterly from July, 1935 to Sept., 1936 (This amount includes issues of July, and Oct., 1935, and Jan., April, and July, 1936, a total of 5 issues)			$1,333.97
Total Balance agreeing with Bank Balance of Aug. 1, 1936, Liberty Bank and Trust Co., Louisville			$ 127.01
Cash and Checks deposited since August 1, 1936			68.04
Total Balance on deposit October 4, 1936			$ 195.05
According to the Audit, old accounts amount to		$268.25	
Bush-Krebs has paid in service	$35.00		
We have been unable to collect	21.00		
Collected on Oct. 2	4.00		
Accounts not receivable	96.00	96.00	
Accounts Receivable		$172.25	$172.25
Total Assets			$367.30

Respectfully submitted,
MRS. WM. H. (VIRGINIA E.) EMRICH.

Vitamin "D" Milk

THE SUNSHINE MILK

ACCEPTED
AMERICAN
MEDICAL
ASSN.
Committee on Foods

•Certified Vitamin "D" Milk is produced by the Yeast Feeding Method to selected cows at the Springdale Certified Farm, Middletown, Kentucky.

•Vitex Vitamin "D" Milk is our regular Pasteurized Milk plus the Vitamin "D" Concentrate of Cod Liver Oil, Vitex, which is added before pasteurization.

•Consult your husband.

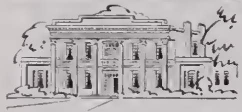
PHONE JACKSON 4201

EWING

VON ALLMEN
DAIRY PRODUCTS

Louisville, Ky.

The **L & N** is your
"HOME SWEET HOME"
on the Rails



The Hermitage, Nashville, Tenn.

YOU ARE INVITED to be a guest of the Louisville & Nashville Railroad in one of the finest and most modern homes in the world today.

In it you'll find the cool, refreshing comfort of complete air conditioning—no dust—no noise—the last word in restful ease. You'll also find cheerful lounging and drawing rooms, clean wash rooms, splendid food, delightful sleeping quarters, intelligent and friendly service. For utmost safety, comfort and convenience, there is no better home anywhere.

To maintain this home-on-wheels and other L & N service, 26,000 people get employment, whose wages total $40,000,000 per year. Many additional millions of dollars go into equipment, roadway and supplies, and into taxes which help support your schools, your highways, and your federal, state, county and city governments.

So you see, the L & N, like your own home, is an asset to your community—a paying asset that earns and deserves the same fair treatment from our lawmakers that you'd want your own or your neighbor's home to have.

We hope you'll think of the Louisville & Nashville Railroad that way. And when you travel, by all means make the L & N your "Home Sweet Home on the Rails."

Railroad passenger rates throughout the country, today are the lowest in history

Rates on the L & N are—
IN COACHES:
1½¢ per mile
IN PULLMAN CARS:
2¢ per mile—round-trip, limit 15 days
2½¢ per mile—round-trip, limit 6 months
3¢ per mile—one way, exclusive of Pullman charge.

Considering speed, safety, comfort, air conditioning, and other modern conveniences, passenger travel by rail is the most economical and completely satisfying form of transportation in existence.
LOUISVILLE & NASHVILLE RAILROAD

The Route of Southern Courtesy

FRIENDLY L&N SERVICE

V.35 no.7 July 1937
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KENTUCKY MEDICAL JOURNAL—PART II

WOMAN'S AUXILIARY SECTION

Dr. Joseph Nathaniel McCormack
Memorial Number

John T. Berry, Photographer

Joseph Nathaniel McCormack, M. D., LL. D.
November 9, 1847—May 4, 1922

JULY, 1937

Our Children

MAY BE IMMUNIZED AGAINST MOST OF THE CONTAGIOUS DISEASES OF CHILDHOOD THROUGH CO-OPERATION WITH THE DEPARTMENT OF HEALTH IN THEIR CAMPAIGN FOR DISEASE PREVENTION.

Diphtheria, Small-pox and Scarlet Fever, have caused intense suffering and in many instances death. The complications following these diseases have been responsible for many unsound bodies. Schools have been closed and social activities interfered with because of the sickness associated with these diseases. For many years Small-pox has been kept under control where vaccination has been regularly practiced. In recent years Diphtheria Toxoid, first in its crude state and later when treated with alum, has proven of inestimable value in the prevention and control of Diphtheria. Scarlet Fever, one of the most contagious of all diseases of childhood may now be prevented and controlled through immunization with Scarlet Fever Toxin. Attempts are being made to control other diseases which menace our children. Pertussis Vaccine is believed to be reducing the incidence of Whooping Cough, and since its use is not harmful it is believed statistics will soon prove the worthiness of the product. In many instances the disease is prevented, and in other instances the paroxysms and general symptoms of the disease modified.

The programs of immunization of the State Health Department and other agencies against disease deserve support.

A SUPPLY OF BIOLOGICAL PRODUCTS MAY BE OBTAINED FROM THE STATE DEPARTMENT OF HEALTH OR FROM THEIR DISTRIBUTING STATIONS LOCATED THROUGHOUT THE STATE.

The Gilliland Laboratories, Inc.

MARIETTA. PENNA.
Proven Biologics for over fifty years.

KENTUCKY MEDICAL JOURNAL, PART II
WOMAN'S AUXILIARY SECTION
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PRESIDENT'S MESSAGE

Mrs. E. A. Barnes, Albany.

WHAT HAVE WE DONE?

As we are on the last lap of the Auxiliary Year—but two months more to go—let us review our Aims, adopted at the Paducah meeting, and see what we have accomplished.

Has it been a pleasure, as well as a privilege for you to work as an Auxiliary Member? Did you enjoy doing it? Can we, as a whole, united organization, sail on to wider, higher seas this in-coming year with our President-Elect, Mrs. Stephen C. McCoy? If so, will you, each one of you, tell some other Doctor's Wife who is not a member and ask her to join our ranks?

Do you know the State Health Laws? Have you enjoyed the social side of Auxiliary life? Regular attendance at meetings will give you a closer acquaintance with Auxiliary Members.

It has been a great pleasure to attend several County meetings and luncheons this year, meet the Members in person and hear of the good work completed. It was a great pleasure to meet Mrs. J. P. Simonds, Chairman, Press and Publicity, American Medical Auxiliary, in Chicago, a few weeks ago. The eager, interested, earnest workers are always inspiring to me. But, the greatest pleasure has been to serve as your State President. This honor which you conferred upon me shall linger, always, in my mind coupled with a proud humility. I wish I might have served you better.

I am finding that there is a great love-bond bound-up with Doctors' Wives, wherever they are. The letters I receive and, above all, the charming women I meet, in this work are all an inspiration and joy to me.

Please, as a last plea from me, help Mrs. A. T. McCormack, our Editor, and Mrs. W. H. Emrich, our Business Manager, with the Quarterly. We are the only State that has its own Auxiliary publication, a recognized supplement to the Medical Journal! Think what an honor this is! Our Editor and Business Manager need every Member's help. Not alone, for literary contributions—news items, articles, messages, reports, etc.—but, quite as important, they need financial support — either through advertisements secured from your business friends, or, cash donations. Each copy of the Quarterly costs actual money, you know. And, postage and envelopes cost money, too. It is a great responsibility to finance this fine work, a responsibility that really belongs to the wife of every member of the Kentucky State Medical Association, not to these two loyal women, alone.

Our Annual State Meeting will be held, September 6-9, in Berea. May I not hope to meet you there? And—will Officers, Committee Chairmen and County Presidents please send me advance copies of their Annual Reports, 3 copies, before August 10th?

Please, let us, as Auxiliary Members, pull all together and at once, so that we may gain strength and then we will have power. We have the best Doctors. And, as we are living in the best State, let's have the best organized Auxiliary. In fact, Let's Be The Best Auxiliary.

-:- EDITORIALS -:-

THE J. N. McCORMACK MEMORIAL NUMBER

This issue of The Quarterly is devoted, largely, to the development of the new project initiated at the Paducah meeting by our President, Mrs. E. A. Barnes—the promotion of a memorial to Dr. J. N. McCormack. Mrs. E. B. Houston, Murray, was named Chairman of the Committee for this development. Mrs. Houston has given much thought to this project. Because of the untimely passing of her husband, Dr. E. B. Houston, her further plans and suggestions are delayed but will be presented to the County Auxiliaries as soon as possible. The pages of this issue contain information that will be instructive and helpful for foundation work among our members, many of whom were personally acquainted with Dr. McCormack, some of whom were privileged to labor with him, particularly in the campaigns for Birth Registration and the Pure Food and Drug Laws.

With much pride, we publish the biographical sketch of Dr. McCormack's life written in 1929 by his wife, Corinne Crenshaw McCormack, at the request of the Chairman of Historical Collections of the Woman's Auxiliary to the Kentucky State Medical Association, Mrs. W. F. Boggess. Incidentally, the query arises: "Would we have this delightfully intimate story of Dr. McCormack's life had there been no Medical Auxiliary to stimulate its writing?" Mrs. McCormack was an active, enthusiastic Auxiliary Member, a Charter Member, having been one of the first to join at the Organization Meeting in Crab Orchard, September 19, 1923.

We are happy, too, to present two pictures of Dr. McCormack: one, the cover design, a photograph taken in Louisville in 1921; the other, a newspaper picture made of Dr. McCormack and his son, Dr. Arthur, at the Seelbach Hotel, Louisville, during the 1912 Annual Meeting of the Kentucky State Medical Association.

A picture of the Memorial Tablet, placed in the Assembly Hall at the American Medical Association Headquarters in Chicago, pursuant to a Resolution of the House of Delegates, is shown on page 96.

Also, we are happy to present two pictures of Mrs. J. N. McCormack: one taken in Louisville, about the time of her marriage in 1871; the other, in Bowling Green, about the time their son, Dr. Arthur, returned from medical college, 1896, and entered into partnership with his father.

On page 97 will be found the obituary published by the American Medical Journal and on page 98 the chronology published in Who's Who In America.

For further study, the reader is referred to the volumes of the Kentucky Medical Journal through 1922. Special mention should be made of the J. N. McCormack Memorial Number, January 1923, and to Dr. McCormack's valuable compilation of historical sketches contained in the November 1917 issue, entitled: Some Of The Medical Pioneers Of Kentucky.

In the December, 1935, issue, an interesting paper on Dr. McCormack's life, written by W. J. Hammill, student of Medical History, is republished from the Nebraska State Medical Journal, August, 1935.

The Health and Medical Laws of Kentucky, from 1879 to 1922 contained in Carroll's Statutes, are also suggested as reference, for Dr. McCormack, actually, was the author of all of these.

A brief biographical sketch of Mrs. J. N. McCormack's life is found on page 98 as prepared for the State records of the Daughters of the American Revolution.

THE PRESIDENT SPEAKS

The Joseph Nathaniel McCormack project was initiated at the Post-Convention Board Meeting of the Woman's Auxiliary to the Kentucky State Medical Association held at the Irvin Cobb Hotel, at 2:30 P. M., October 7, 1936, when after an explanation by the President, it was adopted in the following words, as one of the Aims of the Kentucky Medical Auxiliary for 1936-1937: "Familiarize ourselves with the life and works of Dr. Joseph Nathaniel McCormack, and help erect a Memorial in his honor at Bowling Green." (See pp. 16, 7, January, 1936 issue).

Unable, because of the Flood, and its attending inconveniences, to send copies of Mrs. J. N. McCormack's biographical sketch of her husband to members of the Auxiliary in preparation for Doctor's Day celebration, on May 14th, we are happy to present it now, together with additional data, through the columns of our own publication.

Each Member of the Auxiliary is urged to read every word of Mrs. McCormack's fascinating story. Also, the additional material that has been conveniently re-published in this issue for ready reference.

Then, will you each do something to add to this information? Will each of you who knew Dr. J. N. McCormack, or whose husband knew Dr. McCormack, bring to the Annual Meeting to be held in Berea, September 6-9, your own story of what you, or your husband, knew about Dr. J. N. McCormack and pool it there with others to add to our knowledge of this outstanding Kentuckian, this leader of the medical profession? No complete story of his life has yet been written. Perhaps, we may hasten the day when the Biography of Dr. J. N. McCormack will be available, desirable not alone for entertaining reading by everybody, but, more especially, for the instructive and encouraging influence it would have upon medical students and young physicians. Mrs. E. B. Houston, Murray, Chairman of the Joseph Nathaniel McCormack Memorial Committee, will be glad to confer with you regarding this project. I, personally, will be very happy to receive letters from you and try to answer any question which may arise in your mind regarding this Memorial project.—Mrs. E. A. Barnes, Albany.

TO BEREA FOR ANNUAL MEETING

The Annual Meeting will be held in Berea, September 6-9, this year. An earlier date, than usual. And—it is not too early to begin preparations for a successful meeting! We hope to meet you there and enjoy that delightful Campus and Tavern, together. Berea is an inspiring place to work and play and rest.

Annual Reports for the Meeting, from State Officers, Committee Chairmen and County Presidents will, of course, need to be prepared earlier than usual, too. Please remember to make an extra carbon copy for The Quarterly. Double spaced typing is best for the printer, you know, as well as for yourself, you will find when called upon to read it.

THE NEW DIRECTORY

In the October issue, we publish the County Auxiliary Directory giving the names and addresses of the Officers, Committee Chairmen, and Members of the County Auxiliary and the District Auxiliary. See pp. 121-126, October, 1936, issue. Only **paid-up** members are listed as members. Will the President of the County Auxiliary, together with the Secretary, Treasurer, and Chairman of Membership please compile the Directory for their own local organization and forward to the Editor before August 20th? Names and addresses of new members added after that date may be forwarded on a separate listing.

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PRELIMINARY PROGRAM of the FIFTEENTH ANNUAL MEETING of the WOMAN'S AUXILIARY to the KENTUCKY STATE MEDICAL ASSOCIATION

Berea, Kentucky

September 6-9, 1937

Monday, September 6
9:00 A. M.-4:00 P. M.

Registration Daily
(Every woman is requested to register immediately upon her arrival).

2:00 P. M.

(10 minutes allowed each speaker)
Study Class

Monday, September 6
3:45 P. M.

Pre-Convention Board Meeting
Mrs. E. A. Barnes, Albany, Presiding
(All County Presidents, State Officers and Chairmen are urged to be present. All members are invited.)

Monday, September 6
8:00 P. M.

President's Report to the House of Delegates
Mrs. E. A. Barnes, Albany

Tuesday, September 7
9:00 A. M.

Joint Meeting with the Kentucky State Medical Association.
Installation of the President of Kentucky State Medical Association

General Meeting, Opening Session
Tuesday, September 7—9:30 A. M.

Presiding Officer Mrs. Ernest A. Barnes, Albany
America
Invocation
Address of Welcome
Response
Messages from Kentucky State Medical Association:
Joseph Northcutt, M. D., Covington, Retiring President.
Horace G. Reynolds, M. D., Paducah, In-Coming President.
Advisory Council:
Virgil Kinnaird, M. D. Lancaster,
Arthur T. McCormack, M. D. Louisville
Van A. Stilley, M. D., Benton.
Reports of Committees:
Arrangements
Credentials
Roll Call
Minutes of the Fourteenth Annual Meeting.
Report of the President....Mrs. E. A. Barnes
Reports from Counties

Announcements
In Memoriam
Recess

Tuesday, September 7
12:30 P. M.
Subscription Luncheon

Addresses:
(10 minutes alloted to each speaker)

Tuesday, September 7
8:00 P. M.
Public Meeting—Kentucky State Medical Association.

Wednesday, September 8
9:00 A. M.
General Meeting—Second Session

Presiding Officer..........Mrs. E. A. Barnes
Reports:
- Officers:
- Chairmen of Committees
- Delegates:
  - Woman's Auxiliary to the American Medical Association
  - Woman's Auxiliary to the Southern Medical Association

Unfinished Business
New Business:
- Report of Committee on Resolutions
- Report of Committee on Credentials
- Report of Nominating Committee
- Election of Officers
- Installation of the President

Address of the President:
Mrs. Stephen C. McCoy, Louisville
Adjournment.

Wednesday, September 8
12:30 P. M.
Annual Luncheon, Subscription

Toastmistress.............Mrs. E. A. Barnes
Honoring our National and Southern Presidents
Mrs. Augustus S. Kech, Altoona, Penn.
Mrs. Frank N. Haggard, San Antonio, Texas
Special Guests Representing Kentucky State Medical Association:
Joseph D. Northcutt, M. D., Covington
Horace G. Reynolds, M. D., Paducah.
Advisory Council:
Virgil Kinnaird, M. D., Lancaster,
Arthur T. McCormack, M. D., Louisville
Van A. Stilley, M. D., Benton.

Wednesday, September 8
2:30 P. M.
Post-Convention Board Meeting
Mrs. Stephen C. McCoy, Presiding.

(All County Presidents, State Officers and Chairmen are urged to be present. All members are invited. Plans for the coming year will be considered.)

Your suggestions are earnestly requested.
GOLF.

OUR BUSINESS

Mrs. Wm. H. Emrich.

There is no doubt that our recent "Flood Number" is proving to be a very interesting and valuable issue of The Woman's Auxiliary Section to the Kentucky Medical Journal. Congratulations are still coming from many sources. The President of a college in Alabama writes, "It is the most interesting piece of literature I have perused for some time." From New York, "Congratulations, for the graphic description of the immensely interesting Flood experiences." From our own state and city come letters and telephone messages commending our publication.

So it seems to be a good picture with the right perspective and our Auxiliary women are to be congratulated for their effort. But a good background too, is essentially requisite to make any picture complete. Our Advertisers furnish the background for our publication and deserve all the credit we can give them. Many of them were Flood sufferers in every sense and it is our duty to show our loyalty and appreciation by buying from them.

In the job of rehabilitating, in housecleaning and planning summer vacations, we are spending money and our Advertisers should have our patronage wherever possible. We could not exist without our Advertisers; they supply us "pennies from Heaven." And it costs approximately twenty-five of these pennies to publish and mail each single copy of the Quarterly to our Auxiliary readers. We cannot afford to forget our Advertisers!

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In other words get Golden Tip !
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Joseph Nathaniel McCormack M. D., LL. D.

By His Wife, Corinne Crenshaw McCormack*

Joseph Nathaniel McCormack was born in his father's and mother's home near Howard's Mill, in Nelson County, Kentucky, November 9, 1847. His father had acquired four children by his former wife, Lucy Wilson McCormack, when, at her death, he married Elizabeth Brown, daughter of Nathaniel Brown and Mary Baird of Larue County, Kentucky.

His older full-brother, Thomas Jefferson McCormack, was two years of age when Joseph, the sixth child in the family, was born. He found himself early living under an unlimited monarchy—his father the monarch. Stepchildren are always a problem to themselves and those who control them. When an infringement of discipline occurred in the McCormack family no partiality was shown and the rod was used without discrimination, every child coming in for an equal chastisement, so that sympathy for each other made these infringements rare. Joseph McCormack always felt a deep affection and gratitude to his half-sister, Eliza, who often hid him from his father's sight when discipline was administered to the rest of them. Fifteen children were born and reared in the McCormack home. Necessarily Joseph McCormack led an active, work-a-day life from his youth up.

His father's farm was bounded on one side by the Rolling Fork of Salt River. The bottoms, overflowed by the river each year, renewed their fertility so that year after year immense crops of corn were produced; the meadows yielded grain and grass; the knobs forming a forest background, from which timber was cut to build one of the best houses in the neighborhood, logs for outhouses, barns and stables, fencing and fuel for the spacious fireplaces.

His father, Thomas McCormack, was an unusually intelligent, forceful man. Born near Clonis, in County Monohan, Ireland, of Wesleyan Methodist parents—two of his brothers ministers of that church—his love for his family and native country made him loath to give up his citizenship there, but he came to New York, eventually to Kentucky, and was naturalized as a citizen in Nelson County. After coming to America he visited his home in Ireland seven times.

He ran a country store and was a merchant to the last, never farming in person. He kept a white tenant who directed and superintended the farming, with other hired hands until his boys grew old enough to take charge of it.

Corinne Crenshaw McCormack
As a Bride, in 1871

Every few weeks a two-horse wagon loaded with produce from the surrounding country and consigned to Main Street merchants in Louisville, was driven to New Haven, twelve miles up and down the knobs, across the river which was often past fording. Mr. McCormack went to Louisville at intervals for a settlement and brought back stocks of goods. On his voyages abroad he stopped long enough in New York City to buy stocks of goods. During his absences from home his wife was the controlling power, carrying on his policies as nearly as she could. The store was looked after by his sons, called from the fields, and Joseph began to keep books early in his life.

But, strange to say, after all the traveling and merchandising of the father, Joseph McCormack was never in Louisville, or any other city, until he was sixteen years old. Then a piece of farm machinery broke in the midst of the harvest. Mounting a horse he rode to New Haven, took the train for Louisville, went to the Avery factory, got the machinery he wanted, took the train back to New Haven and the harvest was delayed only a few hours. His next railroad trip, when he was nineteen, was to Louisville, where he took a boat to Cincinnati for his first course of medical lectures at Miami Medical College.

Do you ask, "How came this young farmer to leave his plow, his axe and his oxen and what qualifications had he to become a medical student when he had never seen a university?" From his childhood up he had a greed for knowledge. He did not stop at memorizing lessons in the common schools, but his retentive memory held every expression and experience he had ever known. Garret Smock, a young man who had had some advantages, advertised he would take some advanced pupils in a private school he was opening in Marion County. After much persuasion, Joseph's father made arrangements with the good family of Van Cleve to board Joseph, with the understanding his work on the farm out of school hours was to pay part of his board. The Van Cleve's were lenient taskmasters so that he put in many hours of study. To his sorrow, after a few months the teacher threw up his job and dismissed the school. In later years he told Joseph he was pushing him too hard in Latin and Mathematics and he had to stop and go to studying himself.

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*Deceased, April 24, 1932. "This sketch of Dr. McCormack's life was written, 1929, at the request of Mrs. W. F. Boggess, Historian of the Woman's Auxiliary to the Kentucky State Medical Association. It is inadequate and a poor pen picture of his life, C. C. M."

The school was over, but Joseph kept his books and no one knew when his candlelight went out at night. He was gifted with a wonderful memory, holding fast every bit of knowledge he acquired. I have known university students to make a statement that would challenge his memory of an event or the passage in some book and in every instance Joseph was correct.

When Joseph was sixteen years of age, Doctor Eddy Gaines came into the neighborhood for the practice of medicine. He was a typical and much beloved country doctor and soon won Joseph's strong admiration and friendship. He had books and loaned Joseph, Gray's Anatomy. Joseph became deeply interested in the structure of the human body and began to talk to his father about studying medicine. His father, who had determined to make him a preacher, was strongly opposed to this, but by the time Joseph was nineteen he had persuaded his father to allow him to take his savings, earned from hard work on the farm, with a little help from him, to attend his first course of medical lectures at Miami Medical College, Cincinnati.

The next year his father gave what crops they might raise on the farm to Thomas and Joseph. Wind and weather favored them and one of the largest crops ever grown on the farm made a record that year. The result was that Thomas bought a section of land in Kansas and as he was twenty-three he went there and made his home.

Joseph was twenty-one when he returned to Cincinnati for his second course of lectures. At Christmas that year his mother sent him the money to buy an overcoat. Instead of the overcoat he put the money in medical books and wrote to his mother that the coat was good and durable and would last him all his life. Receiving his degree, he stood for the hospital examination, and with five other of his classmates passed, and they became internes in the Cincinnati General Hospital.

He had a strong wish to locate in the far West when he left Cincinnati, but his father said, "Come back home, practice here for a while, help me to arrange my affairs and I will go West, too, where my large family of boys and girls will have a better opportunity."

Going out to the old neighborhood, Joseph found the whole country swamped with Malaria and Typhoid stalking the land as it had ever done in Kentucky. He found himself riding night and day over a section where there were no improved roads and he found the general practice of medicine in the country brought him a harder and more precarious living than his farm life had done.

He married Corinne Crenshaw on September 14, 1871. She was a graduate of the Presbyterian Academy in Bardstown and had taught at the old Portland School in Louisville, and, after her father's death, in the McCormack family for five months.

Back to his father's home, where he had first met her, Dr. Joseph took his bride. On August 21, 1872, their only child, a son, Arthur Thomas was born in the upper east room of his grandfather's house, making sixteen children under the family roof. During his early years, these uncles and aunts were the playmates and constant companions of baby Arthur, who toddled and tumbled after them happily.

Joseph's wife had made it a condition that their home should be east of the Mississippi and south of the Ohio. But later she had cause to regret this condition. She had gone with her father to Minnesota in 1867 for his health. Civilization was forming, with people going from every state in the Union, everyone a stranger to the other. In Kentucky, they had many kin and people knew everybody, at least by reputation; in the West they would always have been strangers.

It was the middle of September, 1872, that Doctor Joseph was called to the typhoid case of Mr. Gabriel Warren in Green County, many miles over knobs from his home. Mr. Warren was a stock trader as well as farmer, a man important to his section of the country. In order to give his patient early daily attention, he started on horseback at four o'clock in the morning. He had breakfast at the Warren home. He often said he never saw a house so infested with flies. Barns near the house and cattle roaming the fields made good breeding places for these pests that had not, as yet, been convicted as disease carriers.

Mr. Warren survived but Doctor Joseph began to suffer violent headache. Riding to see patients, when his thermometer told him his temperature foreboded trouble, he was forced in November to give up the struggle against an attack of typhoid fever. After several weeks good Dr. Wilkerson of New Haven took charge of the case. He had survived an attack of typhoid early in his career and had treated many cases since. He found Doctor Joseph in a serious condition. Inflammation of the bowels! He prescribed crude opium. Not a trained nurse in Kentucky! Two figures, his wife and eldest sister, took their places beside his bed and kept up their silent watch until convalescence began in March. He had every complication ever known in this fever. Day and night his nurses waited, tended and watched for they were unwilling to change hands with anyone. There were certain things he liked for each of them to do. It became one of his wife's duties to weigh the opium on a small pair of pharmacist's scales. The opium looked like cakes of manufactured tobacco that men cut plugs from to chew. When she thought he was improving, she decided to gradually diminish the doses. His symptoms told on her! And, after that, she had to let him see the weight on the scales. She was troubled, for she thought it would be worse than death if he became an addict to the drug. But there was no need for such fears. The day he could do without it, he gave it up and never had another dose of it. In March his good mother took up the role of dietitian. A fine beef was dressed and she cooked him juicy beef roasts in an iron oven on the stone hearth. Knowing the danger of swallowing solids, he chewed and swallowed the juices.

He was never delirious during the fever, never gave up, until he was strong enough to sit up on the side of his bed. Then, when he saw his limbs, he laid back on the bed and wept for he had never seen a live human being so emaciated.

Doctor Wilkerson prescribed whiskey to be taken in the form most palatable to him. Never having drunk it, he chose to have it in a milk and cream shake. He consumed forty dollars worth of the best old Bourbon, obtained from Mr. Arthur Peter's wholesale drug house in Louisville. He retained his taste for milk and cream but never acquired a taste for alcohol after the need for it was past. He had helped to cultivate a crop of tobacco one year on his father's farm but he never used tobacco in any form. But, tolerant by nature, he was never a fanatic for reforms of any sort.

From this typhoid attack he was left with a spot on his right lung and adhesions of the bowels from which he suffered attacks of pain and sickness at intervals the rest of his life. He thought these symptoms indicated appendicitis and when it was reported through the medical journals some years later that operations for appendicitis were being successfully performed in some cases, he wrote to know if his wife would be allowed to nurse him if he came there for an operation. The answer was that she surely could not. So he decided he would rather put up with what he had to suffer than to fall into strange hands. But it was proved by Dr. Irvin Abell that he never had appendicitis, that the attacks of pain were due to the old adhesions from that almost fatal attack of typhoid brought about by the flies that infested Mr. Warren's home.

It was against his better judgment that Dr. Joseph ever practiced medicine in the old neighborhood. He had known of stalwart young men succumbing to typhoid fever and he knew of no reason for his being immune from the yearly toll in Kentucky. So he had a longing for the level country prairies of the West. For this reason his wife has ever reproached herself for her foolish prejudice against a strange country. Had she seen the far northwest, Oregon and Washington, she would gladly have chosen to make their home where streams of the purest water pour down the mountains, giving such refreshing drinking water, bathing water so soft to the skin. She should have understood that his judgment was best and should have been followed so that his dangerous illness and its after-results would not have caused him suffering the rest of his life. Alas, "How blind we mortals be."

When Doctor Joseph was sufficiently recovered, they went to housekeeping in the cottage that had been built for them on the farm near the church, Beech Grove Methodist Church, erected by his father and friend, Mr. John T. Gaddie. Here, convalescing Doctor Joseph sat in a comfortable chair and directed a negro man in the making of the prettiest garden of vegetables and flowers ever seen in the neighborhood.

When strong enough, he took up the practice of medicine and had some of the most interesting cases that ever came under his observation. He reported one of these, a brain lesion, to Dr. Henry Cottell's Medical Journal. But he realized he could not continue riding over so rough a country and began to look forward to a permanent location. Friends, whose judgment he trusted, advised Bowling Green. Going there in 1875, he rented a house to live in and they moved there the 10th of May, 1875, when their son, Arthur, was two and half years of age.

The profession in Bowling Green was disorganized in 1875, every member standing on his own ground and daring any other to trespass on it.

After studying the situation, Doctor McCormack formed a partnership for the practice of medicine and surgery with Doctor Lemuel Porter, the oldest physician in practice in Bowling Green.

Dr. Porter was a splendid man, large, well-proportioned, remarkably handsome and intelligent of face, a most interesting conversationalist. He laughingly said that other doctors called him in consultation only when the case was ready for the undertaker or when they discovered a case of smallpox, or were aghast over a case of surgery. He had been a great physician and surgeon, but age and domestic sorrow—that all who live to his age must suffer—had taken toll of this unusually fine human being.

Doctor Porter was left to do office work. Doctor Joseph was busy at once riding over Warren and the adjoining counties. He looked so youthful that he was often asked when reaching his destination, "Why did not your father come?" or "Are you the only Doctor McCormack in Bowling Green?" He used to say, "Oh! that I had a few gray hairs that would give people confidence." But without this, his personality soon won confidence far and near.

Yellow fever was epidemic in Mississippi in 1877. There was a rush from the south for northern resorts. Trains from Memphis were run by engineers, conductors and brakemen who lived in Bowling Green. No one knew the cause of the fever, nor the cure, nor how it was communicated. Mosquitoes sang and stung and held their secret. Not a trained nurse in the land. The newly appointed State Board of Health had not gotten on its feet; no law regulating public health had been written; no machinery of any sort to establish quarantine.

It was warm in the closing days of September when Doctor McCormack was called to see the first case of Yellow Fever in Bowling Green, the first he ever saw, but the symptoms were unmistakable. He went to the Mayor, Mr. John Mallory, and told him of the case. The news spread around the square, bankers and merchants went up in the air, "It was not so. Doctor McCormack was just a young sensationalist." This first victim of the fever was a patient of another physician. Not knowing this, Doctor Joseph answered the call. The following morning, Dr. Joseph insisted that the other physician accompany him to see the patient and the other physician was obliged to admit that the symptoms all declared Yellow Fever. But—this did not prevent that other physician from signing a paper, gotten out perhaps by the City Council, stating that there was not a case of Yellow Fever in town; and, it was signed by every other doctor in town!

But this action had no effect whatever on the mosquitoes and case after case developed until by the time frost came in October there had been forty cases of Yellow Fever in Bowling Green and Doctor Joseph McCormack was left alone to handle the entire epidemic; his only assistants being some of the Sisters from St. Joseph's Convent in Bowling Green, who had the courage to nurse the cases. Members of stricken families coming to our house night and day, I would meet them at the front door. "Who is your doctor?" "Such a one, but he is in the country." "My doctor is at the bedside of such and such a one where you will find him." I wondered then why he did not contract the disease, in the infected houses day and night. I had some experience, thereby hangs a tale irrelevant to this paper. "Virtue is its own reward." Doctor McCormack had stood by these stricken people; they stood by him as long as he practiced medicine in Bowling Green.

After Doctor McCormack and Doctor Porter's partnership had existed for six years, the lassitude of age had limited Doctor Porter's activity so that he and his old friend, Mr. Warren Hines, sat in the office playing backgammon hour after hour. Patients coming into the office wanting advice or relief must wait until the game was ended. Doctor McCormack, looking after the sick in his practice throughout the town and country never failing to answer a call day or night, through storm or heat, grew restless.

In December, 1878, Doctor Richard Curd Thomas, a member of the recently organized State Board of Health, had a heart attack and expired at the bedside of his patient, Mr. Pleasant Hines. Doctor Luke Blackburn, Governor of Kentucky, who had done heroic work in Yellow Fever epidemics, knew of Doctor McCormack's experience and promptly filled the vacancy on the State Board of Health by appointing him a member of it. Doctor Thomas, Railroad Surgeon of the Louisville & Nashville Railroad, had seen service in the Confederate Army. He was a cultured, capable surgeon and physician.

A doctor from the county moved in, rented Dr. Thomas' office and, through family connections of his wife, he was made surgeon of the L. & N. He boasted he had a diploma from Bellevue University, New York City. When the law regulating the practice of medicine was put in force it came out that he had no diploma from anywhere. Doctor McCormack's varied experience with this physician was of value to him in his lectures, through the American Medical Association, to physicians all over the United States. Doctor McCormack had many opportunities to return good for evil with this physician and he did not hesitate to do it.

Doctor McCormack's first contribution to the State Board of Health was a sanitary survey of Bowling Green, with drawings and maps. He showed the carboniferous limestone formation of the rock under the town and the dangerous practice of householders throwing sewage of all sorts into these cavities. The jagged rocks held solids until decomposition set in and polluted the underground streams of water that were the only supply of drinking water until the recently constructed reservoir furnished drinking water from hydrants in the yards. Many citizens, however, were loath to give up the wells from which they, and their fathers, had drunk although this practice was thought to account for much of the Typhoid Fever which took toll each year of our young folks. He pointed out the importance of starting a system of sewers through the alleys where the gas pipes should be laid. If his advice had been followed Bowling Green could have started a system of sewers at that time at small cost and the asphalt streets would not be torn up every now and again, searching for a pipe.

He announced to his patients in 1881 that he was going to Europe for a course of study and give them a chance to all get well. He sailed from New York City on a ship of the State Line in February, 1882. He carried letters of introduction from Doctors David Yandell and other physicians in Louisville, John T. Murphy of Cincinnati and Marion Simms of New York City. He was most cordially received in Edinburg and demonstrated in the hospital there the method of plaster of Paris bandaging used in the United States. In London he saw a great deal of Doctor Joseph Lister and readily approved his method of aseptic surgery and practiced it ever afterwards. He had a particularly pleasant acquaintance with Sir William McCormac, who invited him to call on his father and sister when he went to Dublin.

He returned to Bowling Green in June, 1882. After a time he formed a partnership with Doctor A. Cooper Wright for the practice of medicine and surgery. He and Doctor Porter always had a strong attachment for each other and were friends until Doctor Porter's death a few years later.

Doctor Porter said if he had looked after the business side of his practice as Doctor McCormack did, he could have retired ere age overtook him. It was Doctor Joseph's practice to record in their ledger each visit or medical attention so that when he made settlement or sent out an account, his patrons knew that he was correct and he never had an account questioned.

At the meeting of the State Board of Health in May, 1882, it was pathetic to hear Doctor Fayette Dunlap, Danville, declare that from conversations of members of the Legislature he was satisfied that, out of a clear want of knowledge of the value of sanitation, measures presented by the State Board of Health had failed to pass in the General Assembly.

The annual appropriation of the State Board of Health for each of the first twenty-two years was twenty-five hundred dollars. Doctor John Speed, Secretary of the State Board, resigned on January 15, 1883, saying the appropriation was not sufficient to pay his salary of one hundred dollars a month, buy stationery, pay for the printing of Bulletins and his traveling expenses. Doctor McCormack, doubtless, as well as the other members of the Board, worried over the situation. They had asked Doctor Speed to keep the office until they could work out some plan to keep the Board in existence.

At the meeting of the Board, October 1, 1883, Doctor McCormack had offered to take the Secretaryship, move the Board to his home in Bowling Green and carry on the work as Secretary until they could get the appropriation increased sufficiently to pay the expenses of the Board in the city again. No man without the hard every-day work under which he had been trained to endure would have thought of taking on this additional work. An old mahogany desk, a chair and a few boxes of papers and sanitary magazines came down from Louisville. The boxes were sent to the garret, the desk set up in a small room at the end of the hall, where shelves, reaching from the floor to the ceiling, held the books. The second typewriting machine, a Remington, that was ever brought to Bowling Green, and the first owned by the State of Kentucky, was bought at a cost of one hundred and fifty dollars.

Walker Hines came out of school hours and wrote, at Doctor McCormack's dictation when he was not out with the sick and wounded. Walker's salary was ten dollars per month. When Walker went to the University of Virginia, Arthur, twelve years of age, took his place at the machine. When he grew old enough and received his diploma from Ogden he went to the University of Virginia and his mother took his place at the machine, having picked up knowledge enough to run it and take Doctor McCormack's dictation. She continued with this work until Arthur had gone through Medical College in New York City, served the Patterson General Hospital as interne for two years, joined partnership with his father, 1896, and married. His wife said she did not think it becoming for his mother to do this work. Doctor McCormack, always ready to do the kindly and best thing in his family, found he could employ a sure-enough stenographer, and Miss Mayme Sullivan was installed. She has been in the employ of the State Board of Health ever since "and is really a member of it."

Doctor Joseph was as systematic in his practice of medicine as in every other activity. After a seven o'clock breakfast at home, where it was understood every member of the family and any guest in the house must be present, he made his rounds to see his patients in town. That left him the rest of the day to make his country visits. It was ever his practice to visit his patients in town in the evening, make them comfortable for the night and, if he had to be absent attending the meeting of the State Board or looking after some incipient epidemic, he prepared his patients to understand his absence, gave them directions for their care and always found them gladly waiting to see him again. It was the observance of system in the use of time that permitted the well doing of so many activities.

He had to arrange for inspectors at danger points on the border of the state against yellow fever in 1878, 1888 and 1897. There was cerebro-spinal meningitis in Webster County in 1889. In 1892 a general clean-up was necessary because of cholera danger. In 1895, during an epidemic of Texas fever in cattle, a member of the Board told his wife that when the state veterinarian met with the Board he was found to be ignorant of the cause of Texas fever and Doctor McCormack was the only one present who knew anything about it. Spotted fever broke out in Edmonson when, for the first time, a bacteriologist was called in. Shameful disregard of vaccination made smallpox a nuisance in our state capital and in many places. In 1898 influenza appeared and was quite prevalent throughout the towns and cities and it has been a scourge more or less ever since. In 1917 Doctor McCormack went to Muhlenburg to arrest the influenza there. After he returned to his home he was very ill with it for some days. The result was a slight deafness in one ear that was an annoyance to him.

In 1918 influenza, widely present throughout the state, kept him going from point to point in an effort to improve sanitary surroundings, encouraging the county health officers in their struggle against the disease and to face treachery in his home office, which he managed with his usual patience and good sense, to the gratification of his friends throughout the state and the mortification of the traitor and the Governor of Kentucky at that time.

But—to go back!

The partnership between Doctors Wright and McCormack lasted about eight years. When Doctor Wright's son, Thomas B. Wright, came home from Philadelphia with his diploma, prepared to practice medicine in Bowling Green, Doctor McCormack, to the surprise of his family and friends, announced through the daily papers that the firm of Wright and McCormack was that day dissolved; that Doctor Wright would retain the office on State Street and Doctor McCormack's office would be in his residence.

Friends flocked to the house, protested, said: "You have made a mistake; it has not been the custom for doctors in Bowling Green to have their offices in their homes." Doctor McCormack quoted Emerson: "Even though a man live in a wilderness, should he build a superior mouse trap, all the world will make a beaten path to his door." This proved true. Doctor McCormack was as busy night and day as he had ever been. His experience with the physicians in Bowling Green proved of value to him when he lectured to the physicians all over the United States in his heart to heart talks with them. He knew by experience the problems that would confront them.

About this time, in the 1880's, some regulations of the Medical Laws of Illinois sent quacks scooting all over the country, so every now and again an announcement would be made that doctor so-and-so will be here for one day, a celebrated specialist in cancer, consumption, etc. Well, quack after quack came and went, leaving people sadder but wiser.

These travelling Chicago quacks became such a nuisance that Dr. James Holland at a meeting of the State Board in 1881 moved that a committee be formed to draft a Medical Practice Act for Kentucky. Dr. Thompson appointed Doctor McCormack as chairman of this committee.

This made it necessary for Doctor McCormack to study law. He was never a good sleeper and many a night he turned the matter over in his mind; sometimes reaching for a tablet, he would write out the form as he thought it should be, studying law authorities, thinking, writing, until at last to make sure there was no flaw in it, he submitted it to Mr. C. U. McElroy, a good constitutional lawyer. Mr. McElroy read it, warmly approved it and said that he wished the lawyers of the state would do the same thing to clean up the bar in Kentucky.

Meeting the approval of the Board, the next step was to get the Legislature to approve it, so it could be put on the statute books and become effective. Doctor McCormack went to each session of the Legislature and no one will ever know the patient reasoning with each representative, explaining the necessity of the law and how it would protect the people from imposition by unprincipled pretenders of medicine who were in utter ignorance of the functions of the human body. He often said that the only means he ever used to gain his point was persuasion for, not using either whiskey or tobacco, he could offer neither one to pave his way to their good will. He often said that Republican members were more ready to support his measures than members of his own party.

Quacks from all over the country were watching the measures being taken to bring them to an accounting. As soon as the law could be brought to prosecute them, when they continued to come to the state, Doctor McCormack had to prosecute them. He studied both sides of the case, writing out the entire case

Dr. J. N. McCormack and Son, Dr. Arthur, at State Medical Meeting, 1912

before submitting it to the attorneys for the Board, Messrs. Wright and McElroy and Mr. Aaron Kohn. This preparatory work helped them to understand the case and made it so easy for them to plead the justice of the action from the view given by the State Board that decision in its favor became a rule when presented to the courts.

Finally Doctor Minor of Chicago appeared—large, well-dressed, flowing beard and mustache, carrying a cane, followed by a greyhound. He impressed some of the Bowling Green doctors so they turned over some of their incurables to him for treatment. Pleased with this reception, he opened an office, went back to Chicago and returned with a stunning looking wife, large and blond. It was told after he had been there some time that he said in a crowd of men: "Doctor McCormack claims to be a skillful practitioner, the answer to that is 'look at his wife'." She was slender, but in good health. When his remark was repeated to her she was mean enough to say: "Well, my doctor has never killed a wife yet." She had understood he was a widower when he came to Bowling Green. The next day circulars were thrown out all over town explaining that Doctor Minor had been cleared in court in Chicago of the charge of causing the death of his wife; that she lost her life through a mistake of a trained nurse giving her the wrong medicine. His career closed very soon after that. He left town and his wife behind him. She said she had been a milliner in Chicago, sold out and gave him the money. She had to work in one of the Bowling Green millinery store to get money enough to pay her traveling expenses back to Chicago.

But the quacks were not willing to give up easily and threatened through the newspapers to sue Doctor McCormack for large sums. Thinking such a suit might be brought and knowing the uncertainty of juries, he made over his property to his wife, after consultation with his friend, Judge Robert Rodes and Mr. McElroy. Judge Rodes said it was a most generous action for any man to do. His wife knew of this but it affected her neither one way nor another. They understood each other so thoroughly that what was one's belonged to the other. They kept two brief wills leaving whatever they possessed to the survivor.

When the Medical Practice Act was being discussed in the state and county societies, leading articles in the newspapers began calling attention to the claims of the only other system of medicine practiced in Kentucky at that time,—the homeopathic. Doctor McCormack told the doctors that the only way to deal with this hue and cry was to admit members of this school to registration when they could show a diploma from their schools and, with other applicants, pass the examination in anatomy and physiology before the State Board of Health. Their system had certainly brought more palatable doses of medicine in allopathic practice. Let them come in and adopt any good idea they should contribute; let them see our system at close range and we may make them as good doctors as ourselves. After discussion and time for thought, the leaders of the State Medical Society agreed this was the best plan.

When Doctor McCormack succeeded in getting the Legislature to pass the Medical Practice Act in 1888, the quacks took the alarm and cleared out of Kentucky, so that the time came when there was not one advertising quack in Kentucky. Doctor McCormack had to go into court and prosecute these pretenders. He studied each case and would go to Mr. C. U. McElroy in Bowling Green, a good constitutional lawyer, and read the findings gathered on both sides to be sure there was no flaw. There was rarely any correction made in his statements and the result was generally success for the State Board of Health.

When, finally the amended act was passed to Regulate the Practice of Medicine in Kentucky, the regular practitioners of medicine recognizing the value of the law, expressed their approval individually and through their societies. But some doctors who had boasted loudly of their attainments and the value of their diplomas above other practitioners' in the same community had the mortification of being found without a diploma of any sort. One doctor of this sort had done everything he could to injure Doctor McCormack in Bowling Green, only stopping short of physical violence. Patiently he warded off injury and, although this man did his best to arouse antagonism among the other doctors to the law regulating the practice of medicine, Doctor McCormack's sympathy was thoroughly aroused when it was found that this man had no diploma from any college. He arranged for him to take a postgraduate course in Louisville, stand the examination for a diploma and thus secure the right to practice medicine legitimately. This was eventually done and Doctor McCormack saved him from the scorn he would have encountered had his deception been published.

In executing the law: "A physician applying for registration is required to give satisfactory evidence that he is a bona fide resident of the county from which the application is made and that he is a physician within the meaning of the law," Doctor McCormack had the Board request the courts and officials not to initiate proceedings against physicians who failed to comply with the provisions of the law until every one had had time to understand and comply with its provisions. This request from the Board was very generally complied with, not only until such opportunity had been given, but until the permanency and solidarity of the law had been assured by the action of the Governor, the courts and the General Assembly. A circular was then sent out with this information: "Now said request is withdrawn and county boards of health, grand juries and other officials be required to take such steps as will secure the people the protection designed by the law." Circuit judges were requested in the circular to give the law in special charges to their grand juries. The law was farther helped when Dr. McCormack found it necessary to have Medical Referees in each county.

The Amended Medical Practice Act was ready to be put in force in 1893. An office record had to be made of the date of arrival of each diploma, the school from which it was issued, the physician's address and the date when it was sent to the postoffice to be returned. Dr. McCormack employed McKenzie Moss, at that time a young attorney just come to Bowling Green to practice his profession. He was pleased to get the job of office helper at this time. Diplomas came in a shower. Those that came from disreputable or fake schools were put back in their cases with the fee, often in excess of that set by the law, and returned to the address given. Now and again a man, who had been a boaster and given the doctors in his community trouble, would appear to make an appeal and ask what he could do. He was sent to school in one of the several medical colleges in Louisville and if he passed their examination, his diploma was endorsed and he had the personal satisfaction that he was now an honest practitioner of medicine.

Complaint would come now and again that a valuable practitioner was losing hold of himself and his practice through intoxicating drinks. Doctor McCormack would write a kindly, warning letter and many times he received an answer saying, "It was not too late to mend." But there were times when no such answer came; the trouble would continue. The physician would receive notice that complaint sent the Board proved him unfit to practice medicine and his license would be held up until satisfactory reports were made to the Board. Sometimes unprofessional conduct of other sorts were reported, to be dealt with most carefully.

During this time Doctor McCormack was practicing medicine and surgery in partnership with Doctor Cooper Wright in Bowling Green, Warren and adjoining counties. The first case of Rabies to come under Doctor McCormack's observation came about in this way: A messenger dashed into their office one morning saying a boy had been bitten by a mad cat in one of the good country families that had long been patrons of Doctor Wright. Both Doctor Wright and Doctor McCormack went out and found the house and grounds filled with sympathetic neighbors. It seemed that a quiet, well-behaved domestic cat had suddenly sprung at the boy and badly lacerated him on various parts of the body. Doctor McCormack treated the wounds, but said to the father, "The only assurance you can have that his boy won't develop Rabies and have a tragic death is to send him to New York City to Doctor Gibier, the only man in the United States who gives the Pasteur treatment." "Well," the father asked, "What would it cost?" Doctor McCormack told him the traveling expenses of the boy and someone to go with him and the treatment there would, no doubt, come to several hundred dollars. But Mr. Croswaite, a well-to-do farmer, had no surplus money in the bank. The neighbors at once said they would contribute the amount needed and have the boy sent on. Doctor McCormack was to write to Doctor Gibier to find out exactly what the cost would be. His answer was six hundred dollars would cover the entire cost of the travel there and back for the two, the hospital expenses and his charge. This sum was made up and deposited in the bank. A young man, whose father had been a liberal contributor, said he would take charge of the boy and take him to New York.

At the end of two weeks they returned. In a few days a letter came from Doctor Gibier, saying: "Will you please send me the other half of the money you said had been raised to cover the expenses of this case? The young man paid me only half." Doctor McCormack called the boy over the telephone and asked him to meet him in the bank. He came in at once and said, "It is true, I paid him only half, but I told him I had the property at home and as soon as I could make a sale I would send him the rest." He said, "It was just this way, Doctor: I was never in New York before, I might never be again and I wanted to see it. It took more than I dreamed it would cost to see New York, and the worst of it is, after spending my own money that I took with me and a part of the fund raised, I only saw a part of New York at last. But, write to Doctor Gibier, tell him I have a fine Jack; I expect to get five hundred dollars for it County Court day. If he can't wait for his three hundred dollars, I will give up my profits and ship him the Jack."

Doctor McCormack came back to the office, his face wreathed with mischievous smiles and dictated the following letter to his wife-secretary:

"Dear Doctor Gibier:

The young man says truly it costs more than he thought to see New York; that he has a fine Jack, worth $500, and if you cannot wait for him to sell it, he will give up his profits and ship you the Jack."

The next mail brought a letter from Doctor Gibier saying:

"Honored Colleague:

Under no circumstances ship the beast! If you can secure the money, all right, but if you cannot, please do not forward the brute."

Repeatedly, the same explanatory note came day after day until Doctor McCormack, growing desperate, called the young farmer to the bank again. Doctor McCormack and the banker, knowing the farmer's ability to pay, loaned him the three hundred dollars from the bank and a check went on to Doctor Gibier.

Now, the State Board of Health, from its Bacteriological Laboratory, furnishes the healing Pasteur treatment for Rabies and the protective vaccines for Typhoid, Diphtheria and other diseases to any doctor in the remotest corner of Kentucky who can administer the treatment, at small cost to any sufferer.

Attention being centered on public health, Doctor McCormack realized that prevention and the laws of sanitary science would so lessen sickness that the doctor of the future would be employed in preventing sickness as well as curing it. Going to every call in the State where an epidemic was threatened, he reported an epidemic of smallpox in Edmonson County, for the Louisville Medical Journal, edited by Doctor Henry Cottell.

In 1911, the appropriation for the State Board of Health was increased sufficiently to employ a sanitary engineer and a state registrar. Doctor Wm. Lucien Heizer, with a typewriting machine and a stenographer, walked into the office. A wagon loaded with publications pertaining to his office stood at the door. As there was no room in the house for these papers, the wagon was driven to the barn and the papers stored in the loft. The sanitary engineer was expected daily. Both Doctors McCormack were away from home (all lived together), and Arthur was the first to return. His mother said to him, "What will you do with these new Bureaus? The house is not large enough to hold them. My suggestion is that you rent a cottage (that I know to be vacant) and move the entire State Board to it." Arthur looked very much depressed but made no reply.

The next morning, large furniture wagons were at the office door. That day the State Board was moved from the McCormack home. It was now Mrs. McCormack's time to feel depressed. It had been with them so long, was so much a part of her life, in fact of the lives of all of them, that she and the rest felt the parting keenly. The Board remained in this cottage for one year. Then Professor H. H. Cherry found room for it in one of the buildings of the Normal School, now Western State Teachers College, where it remained until the Board was removed to Louisville in 1918.

The office of the State Board of Health remained in the McCormack home for twenty-eight years with no cost whatever to the State. When bulletins or circulars had to be sent out, the cook, the housemaid and Uncle Jim, the outside man, were called in to help fold, stamp and seal envelopes. The large clothes basket was filled time after time and lifted into the buggy and Uncle Jim took the mail to the post-office.

Mrs. McCormack often remonstrated with Doctor McCormack about his hard work. Always cheerful, he would say: "Corinne, never mind, I have to work while I have the strength. When I am fifty years old I am going to retire and you and I are going to have a happy old age." When he was seventy-five he had taken on more care than he ever before had carried and his machinery was simply worn-out when he expired, May 4, 1922, after a short illness in his home in Louisville.

JOSEPH NATHANIEL McCORMACK, M. D.

From a Manuscript by Mrs. J. N. McCormack.

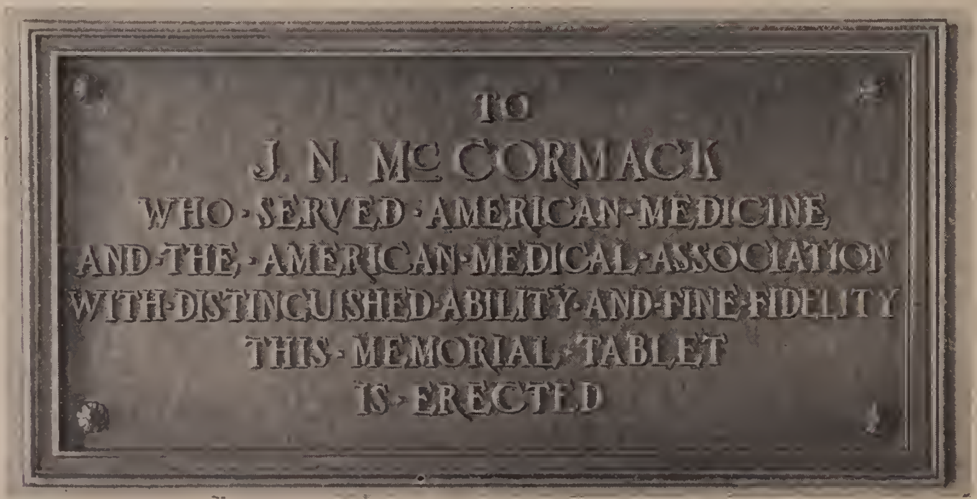
Following the discontinuance of the Old National Board of Health in 1879, (no further funds appropriated), Mr. Joseph had always felt that there should be developed a Federal Department of Health with a physician in the Cabinet. Both, as Chairman of Reorganization and as a member of the Council on Health and Public Instruction, he continued to advocate this plan.

His plans were defeated, although they had received unanimous approval of both the House of Delegates and of the General Session at several annual meetings of the American Medical Association, through the machinations of a group of reactionery medical leaders in Chicago together with the, then poorly organized, United States Marine Hospital Service: the latter has since been reorganized as the United States Public Health Service, of whose leadership and achievement we are now so proud.

When Doctor Charles Reed, of Cincinnati was president of the American Medical Association 1899, knowing of Dr. Joseph McCormack's reorganization of the Medical Profession in Kentucky, he appointed him chairman of a committee to reorganize the National body, writing a new constitution for reforms in the body that would strengthen and widen the usefulness to the entire medical profession.

Later, Doctor Reed said: "History will never record the labor of that committee, especially the labors of Dr. McCormack during the ensuing year. As ex-officio member of the committee, I know all about it. The numerous and long journeys, the frequent and prolonged conferences; the careful preparation of tentative articles, their patient consideration, frequent amendments and occasional abandonment for others until the perfected instrument was ready for consideration at St. Paul. There, McCormack displayed his splendid generalship of an open field and a fair fight. The result was: the whole revolutionary document went through with a whirl."

"The constitution reported by McCormack


TO
J. N. McCORMACK
WHO · SERVED · AMERICAN · MEDICINE
AND · THE · AMERICAN · MEDICAL · ASSOCIATION
WITH · DISTINGUISHED · ABILITY · AND · FINE · FIDELITY
THIS · MEMORIAL · TABLET
IS · ERECTED

House of Delegates Memorial in Assembly Hall, American Medical Association Headquarters, Chicago and adopted without change by the association embraced a few cardinal features; (1) The segregation of the legislative and executive functions from the scientific proceedings, (2) the creation of the House of Delegates as a unicameral legislative body, (3) the decentralization of authority by a choice of delegates on a per capita basis by the state association and (4) the development of county societies as the ultimate unit of organization under their respective State associations, these becoming integral parts of the national body, with (5) all members of State associations eligible to Fellowship and to receive the Journal. It was McCormack's policy, it was the policy of all who were privileged to work with him, the policy of the whole association at the time, first, that every eligible member of the profession should be brought within the fold; second, that, under and by virtue of the constitution, the association as such, through its properly constituted but always controlled agencies, would determine its own personnel, control its own assets and determine its own policies; third, that its Journal, its one revenue earning asset, should be developed primarily for the prompt and wide dissemination of scientific knowledge among the members and secondarily for the no less important function of conserving the social, political and civic interests of the profession; and, fourth, by these means bring the beneficent resources of medical science to bear on the cure of disease, the maintenance of health and the promotion of the welfare and happiness of the people.

The association, like a ship just off dry dock, its barnacles all gone, with a new and approved chart, started on a fair voyage. McCormack declined to recognize his own task as completed when his report, the constitution, had been adopted. With the enthusiasm characteristic of him, he fairly jumped at the actual task of bringing all eligibles in the United States into the fold through the magic of the spoken word. He, personally went from state to state, often county to county, and, with magnetic personality and eloquent appeal, succeeded even beyond his most sanguine expectations. The Journal at once leaped from considerably under ten thousand to considerably over sixty thousand; now I believe, to something over eighty-five thousand. Its revenues, derived from your dues and from some independent subscribers, but chiefly from its greatly enhanced advertising patronage at greatly advanced rates, made it one of the most valuable properties in the journalistic world. Land was purchased, buildings were erected, rented quarters were abandoned, new and efficient machinery was installed, while healthy surpluses were invested in securities. Of such was the magic of organization; of such were the fruits of McCormack's labors."

JOSEPH NATHANIEL McCORMACK*

"Joseph Nathaniel McCormack, Louisville, Kentucky, died at his home of cerebral hemorrhage, May 4, aged 75. Dr. McCormack was born in Nelson County, November 9, 1847, the son of Thomas McCormack, merchant and farmer, and Elizabeth Brown McCormack; he was the sixth of fifteen children. Leaving school at 12 he continued his studies alone while living on a farm, becoming proficient in Latin and mathematics. At 20 he entered Miami Medical College, Cincinnati, graduating in 1870, at 23, as valedictorian of his class. In 1873 he was granted the degree of M. D. by the Medical Department of the University of Louisville, and two years later removed to Bowling Green, Ky., where he resided until 1919. He married Corinne Crenshaw of Glasgow, Ky., in 1871. During an epidemic of yellow fever in 1878 Dr. McCormack aided in stamping out the disease and when a board of health was created in 1879 to combat cholera and yellow fever, he was appointed a member by Governor Blackburn. In 1883 he became executive secretary of the board, serving continuously until 1913. He was elected president of the Kentucky State Medical Association in 1881. Beginning with the passage of an act for the prevention of disease in live stock in 1885, Dr. McCormack was instrumental in securing important medical legislation in his state; a medical practice law in 1888, licensure laws in 1893 and in 1904; vital statistics law 1908, and a bill combining health agencies in 1918. The life of Dr. McCormack is in fact the public health history of his native state. Moreover, it is said that he had not missed a session of the state legislature for forty-two years and that since 1888 he had written all the laws of the state dealing with public health, medical education and the practice of medicine. In 1912 he served one term as a member of the legislature.

However, the services of Dr. McCormack in public health work were not limited to his native state. He aided in organizing the Conference of State and Provincial Health Officers; he was a member of the International Quarantine Commission in 1892; of the National Conference of State Boards of Health from 1886 to 1894 and of the Confederation of State Licensing and Examining Boards. In 1888 he received official thanks of President Cleveland for his work in the cholera epidemic.

In the American Medical Association, Dr. McCormack served in many important capacities. In 1900, at the annual session of the Association in Atlantic City, N. J., a committee of three was appointed, known as the Committee On Reorganization, to study the then unsatisfactory conditions and to submit recommendations on the subject. On this committee, of which he was chairman, Dr. McCormack did most effective work. The report which was presented at the next session of the Association at St. Paul in 1901, was adopted unanimously. The committee was continued and, from 1901 to 1910, Dr. McCormack as chairman devoted much time and energy to establishing the form of organization adopted. In this work he traveled widely throughout the country, aiding in building up the constituent state and territorial associations. When the Council on Health and Public Instruction was organized in 1910 Dr. McCormack became a member as chairman of the committee on organization, and continued in this work until 1913. He was a member of the House of Delegates from 1902 to 1907, inclusive, and again in 1912.

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*Journal American Medical Association May 13, 1922.

Dr. McCormack's enthusiasm in the work to which he devoted his life was unabated to the end. He was actively engaged in his office on May 2. Soon after arising on May 3, he complained of dizziness and returned to bed. He fell asleep and gradually lapsed into coma from which he could not be roused. His death came May 4, at 7 a. m. The thousands of telegrams of condolence and eulogy received following announcement of his death bear witness to the esteem and honor in which he was held by the medical profession.

Many physicians live lives of usefulness in their communities, practicing their profession conscientiously and loved by all whom they serve. They find time amid the pressing cares of practice to consider the broader problems of medicine, of disease prevention, of health education and of the professional and social status of the medical profession. A few physicians, however, not only do all this for their own community, but also carry their work into wider field of state and nation. Such a man was Joseph N. McCormack—a type, in his early days, of the early practitioner, but all his professional life a citizen, not alone in Kentucky, but of the whole country. He was a man of dignified and powerful personality, gifted in influencing for good those with whom he came in contact. In the history of the medical profession of America, Joseph N. McCormack will have a permanent place and the medical profession of the whole country mourns his death."

FROM WHO'S WHO IN AMERICA

McCormack, Joseph Nathaniel, physician, b. Nelson Co., Ky., Nov. 9, 1847, S. Thomas and Elizabeth (Brown) M; ed. pub. schs.: M. D. Miami Med. coll., 1870, and med. dept. U. of Louisville, 1873; served in Cincinnati Hosp. 1870-1: (LLD. Central U. 1893); M. Corinne Crenshaw, of Glasgow, Ky. Sept. 14, 1871. Practiced Nelson Co., Ky. 1871-5: since then in Bowling Green. Mem. since 1879, sec. 1883-1913 and since 1914 state sanitary inspector for State Board of Health; was Mem. Internat. Quarantine Comm., 1892. Pres. Ky. State Med. Soc., 1884, Nat. Conf. of State Bds. of Health 1886-94, Nat. Confederation of State Licensing and Examining Bds., 1899, Chrm. Com. on Organization A. M. A. 1899-1913. Address, 1416 3rd St., Louisville, Ky.

(Vol. XI, P. 1891. 1920-21.)

MRS. J. N. McCORMACK

State Regent of D. A. R., 1906*

The daughter of Edmonia Hawkins Martin and Littleberry Porter Crenshaw, Corinne Crenshaw McCormack was born November 9, 1847, in the home of her father and mother in Glasgow, Kentucky.

Her father practiced law in his early years, then entered the ministry of the Methodist Episcopal Church. When she became of school age, she attended private schools in the communities in which she lived. From the age of twelve, she read the English Classics in her father's Library. She was elected Valedictorian by her class and graduated in June 1866 from the Bardstown Female Academy.

Mrs. J. N. McCormack, in 1896.

Then she taught school until September 14, 1871, when she married Dr. Joseph Nathaniel McCormack of Nelson County, Kentucky. Dr. McCormack was a graduate of the Miami School of Medicine of Cincinnati and had served two years as Interne in the Cincinnati General Hospital.

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*Prepared for State D. A. R. Records, March 28, 1929.

A son, Arthur Thomas McCormack, was born August 21, 1872, an only child.

With her husband, Dr. J. N. McCormack, she located in Bowling Green, Ky., in May, 1875. She was a charter member of the Ladies' Literary Club of Bowling Green, organized in 1880. This was really a study club of the literary masters of the world. This club is still in existence.

Mrs. McCormack was State Regent of the D. A. R. in 1906. Three chapters, the Filson Chapter of Louisville, the General Nathaniel Freeman Chapter of Bardstown and the Transylvania Chapter of Glasgow, were organized that year. She declined renomination for the position of Regent at the meeting in Paris, Kentucky, October 11-12, 1906.

She stood shoulder to shoulder with her husband in his work as a practicing physician and as the Executive State Health Officer of Kentucky traveling with him to the numerous medical meetings which he was obliged to attend, all over the United States; also to Hawaii and Cuba. A three months trip to Europe was the one pleasure trip in which she and her husband indulged. This was the fulfillment of a promise made her when he courted her. Dr. McCormack died in May, 1922. Since then, she has made her home in Louisville. She was a charter member of the Woman's Auxiliary to the Kentucky State Medical Association, having participated in the organization's meeting at Crab Orchard, September 19, 1923. (She died in Louisville, in her apartment in the Brown Hotel April 24, 1932).

JANE TODD CRAWFORD DAY OBSERVANCE RADIO BROADCAST*

Miss Margaret Flynn, Louisville.

It is both timely and peculiarly fitting that, on this Woman's Interest program, we pay tribute to that pioneer Kentucky woman, Jane Todd Crawford, who 127 years ago this month, with rare courage and fortitude, made a decision which has meant health and life to thousands of suffering women throughout the world.

On December 13, 1809, Dr. Ephraim McDowell, honored throughout the world today as the Father of Abdominal Surgery, was called to a little cabin in Green County, in a community known as Caney Fork, just 60 miles from Danville, Kentucky, the first capital of the State, to see Mrs. Thomas Crawford. It was in that rude cabin that Jane Todd Crawford, then 46 years of age and the mother of five children, was informed of a physical condition—that has brought a chill to the hearts of thousands of suffering women since that time—and told of a possible remedy. She did not have the modern care and attention afforded the women of today to help her bear the shock of this information. Hers was the life of a pioneer woman, the woman who followed the wagon trails over the Alleghenies; the woman who made her own soap, carried water and faced, by the side of her man, the perils, dangers and hardships of the frontier. Hers was the country of Daniel Boone and the long rifle; the American Frontier, where the pioneer stock, such as Ephraim McDowell and Jane Todd Crawford, dwelled.

Fully realizing that to Ephraim McDowell this great experimental operation meant an original contribution to surgery while to her it mean life or death, this woman, with a steadfast faith and courage, gave her consent to such an experiment. She then rode 60 miles on horseback, suffering acutely every mile of the journey, over rough mountain roads, to Danville, Kentucky, where the operation was performed on Christmas Day, 1809, in the home of Dr. Ephraim McDowell. This home is now being restored as a medical shrine, by the Kentucky State Medical Association, to the memory of Dr. McDowell, this great son of Kentucky.

A granite monolith, which stands near the McDowell monument in McDowell Park, Danville, was erected Memorial Day, May 30th, 1935, by the Kentucky State Medical Association, first organized medical group thus to honor a patient, as a loving and well deserved tribute to Jane Todd Crawford, the woman, who through her heroism, made this wonderful and life-saving operation possible. For her, this operation was an experiment, a daring experiment. But, an experiment with far-reaching results, for it has brought health and happiness to the woman of America and of the world.

What an example of courage and self-control was set by this backwoods woman for us women of today! Ether and chloroform were unheard of at that time! Yet, Mrs. Crawford retained her senses throughout the operation, without a murmer or a struggle, comforted and sustained by her memory of the Psalms of David which she repeated quietly, confidently.

The name of Ephraim McDowell and Jane Todd Crawford should forever live in the hearts and minds of the women of America. The women of Kentucky will each year in observance of Jane Todd Crawford Day, December 13th, pay tribute to this heroic woman, Pioneer Heroine of Surgery.

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*Broadcast, December 10th, 1936, over Station WHAS, 8:30 A. M., Woman's Interest Program.

CANCER CONTROL

Mrs. J. Duffy Hancock, Louisville, State Chairman.

CHAIRMAN'S MESSAGE

We are glad to make a very happy announcement. In spite of flood and high water, the worst disaster in the history of our state, the drive for membership, staged by the Woman's Field Army of the American Society for the Control of Cancer, went well over the top. Kentucky was one of the few states to exceed its quota. While great praise must be given Mrs. E. H. Heller, the State Commander, we as an organization can take considerable pride in her success. Not only did many of our county groups contribute in a material way but all of you gave an immeasurable amount of intangible support by the foundation you have helped establish in making Kentucky's women Cancer Conscious. A large part of the money raised will be used right here in the State—principally for literature at cost.

I sometimes wonder whether or not, in our enthusiasm to help our sisters, all of us play fair with ourselves. How long has it been since **you** had a physical examination? How long have **you** had a lump, a chronic sore that won't heal, an abnormal discharge from one of the body passages, or any indefinite type of indigestion. Be honest—how long? We are a fortunate group of women. Not only are we better informed on health matters, than most of our friends but also the item of medical expense is of no consequence. And while we often complain, rather jokingly, that the doctor neglects his own family most of all his patients, you know and I know that even a halfway serious complaint will receive every consideration. We have only ourselves to blame if any one of us allows a cancer in herself to become incurable.

CANCER TALK FOR A WOMAN'S CLUB

Miss Elma Rood, R. N., University of Kentucky, Lexington.

Outline of Points in a Presentation on Cancer.

I. Introduction.
  1. Cancer found in all vertebrates.
    a. Has been known in human race over many years.
  (1) History of early Europe shows cancer in royal families.
    Little knowledge of disease or treatment.
  (2) Average of....deaths per year for 10 years in............County outside the city of............
    Thousands of cases have been cured, but are not recorded .
  (3) Is a disease primarily of middle life and old age.
      (a) Incidence increases with age.
      (b) No respecter of person or rank with one exception: Gastric cancer increases as social scale goes down.
      (c) Deaths in order of frequency; breast cancer, cervical cancer, and gastric cancer.

Nation-wide campaign of education has been launched among women in the United States based upon this knowledge of seriousness of problem.

II. Attitude of people constitutes a problem in cancer control.
  1. Ignorance fosters false ideas, for example:
    a. Cancer caused by eating certain foods.
    b. Cancer caused by eating food cooked in aluminum vessels.
    c. Cancer is absolutely incurable.
    d. Cancer is inherited (fatalistic attitude).
    e. Cancer is contagious and if a person lives in a house with a case, he will contract it.
    All the above are known to be untrue, but need to be explained if people are to be convinced.
  2. Fear of the disease makes people grasp at quack cure-alls—which should be avoided.
    a. New so-called cures are widely adver-

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tised, (newspapers, radio, etc.)
b. Shots of serum or gland extracts are said to cure cancer quickly.
c. Pastes or plasters are said to cause growth to slough off and never come back.
3. Fear makes people hesitate to consult a doctor.
a. They think it better not to know the disease is cancer, and that knowing that one has the disease makes a person worse, because of effect upon a person's mental state.
4. Disease is concealed from friends and family because it is thought of with horror.
a. A similar attitude which existed toward tuberculosis years ago has now been overcome.
b. Concealment causes disease to develop until all hope of cure is lost.

III. Study and experimentation are bringing to light many facts about cancer.
1. Experimentation with animals has shown:
a. Certain animals are more susceptible than others.
b. Susceptibility to cancer seems to be inherited
c. Two general predisposing causes to cancer, in animals:
(1) Heredity tendency.
(2) Chronic irritation.
2. Animal experimentation now in progress—
a. Mice—Maud Slye—heredity of cancer in repeated generations of mice.
b. Dogs—Mayo laboratory—conditions that lead to cancers.
c. Chickens and dogs—Institute of Health, Washington, D. C. Luekemia resembles bone cancer. Dogs after age of seven found likely to have cancerous growths in body.
3. Research with human beings in hospitals and clinics has disclosed:
a. Cancer is the result of some overstimulation of a cell.
(1) Very little is known as to the cause but is thought to be some chemical substance reacting on a cell, causing it to multiply more rapidly than normal, i. e. growth and repair goes on in disorderly and chaotic way.
b. Cancer does not develop suddenly or acutely.
(1) There is a period of pre-cancerous condition.
(2) Early symptoms mild and painless.
c. Cancer occurs in many different forms, and in any part of the body.
(1) These differ in cause, symptoms and course.
d. Cancer is not a germ disease, therefore:
(1) It is not contagious.
(2) Cannot be contracted by contact with a case.
e. Cancer is not inherited but:
(1) Susceptibility or weakness runs in family
(2) Family history is always considered important in a case where diagnosis is doubtful.

IV. Predisposing Causes of Cancer.
1.. **Chief cause:** A long standing irritation.
a. Physical: Injury to cervix following child birth, irritated mole, injury to tissue or bone, irritation of mucus membrane, jagged teeth, pipe smokers.
b. Chemical: Effect of tar, analyne dyes, pitch, radium poisoning, soot.
c. Inflammatory: Gastric trouble, internal burn from drinking hot liquids (Mayo), chronic infections, with irritation from discharges, etc.

V. Preventive measures depend upon early removal of irritation.
1. Scrupulous cleanliness and prompt medical attention to suspicious abrasion or inflammation.
2. Moderation in habits: Avoiding excess pipe smoking, avoiding too hot foods, avoiding irritating substances in stomach.
3. Avoidance of constipation.
4. Regular dental care to avoid mouth irritations.
5. A yearly health examination, including rectal and cervical, because rectal cancer often follows bleeding piles (hemorrhoids).
6. Semi-annual pelvic examination recommended for women who have had children. (Dr. Bloodgood).
7. Immediate reporting of suspicious signs:
a. Lump in breast—hard, painless lump.
b. Bloody discharge at irregular times.

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        (1) Spotting of blood between menstrual periods is dangerous—often first sign of cancer of the cervix.
    - c. Sudden loss in appetite and failure to digest food.
    - d. Bleeding hemorrhoids.
    - e. Cuts on lip or tongue that fail to heal.
    - f. Sudden loss in weight and pallor.
    - g. Irritated spots—moles, warts (dark brown or blackish moles are dangerous). Remove if subject to irritation.
    - h. Any change in bowel habits, whether constipation or diarrhea.
    - i. Chronic indigestion or "stomach trouble."

VI. Outlook for cancer cures hopeful:
- 1. Recognized means include:
    - a. Transillumination to detect grouping of cells.
    - b. Bioscopy to determine malignancy.
    - c. Surgery to remove growth in early stage such as, black or dark brown moles subjected to frequent irritation.
    - d. Electric cautery for early skin cancers.
    - e. X-ray given deeply into the tissues.
    - f. Radium to destroy growth.
- 2. Early recognition and treatment essential to cure.

VII. Community Resources Needed:
- 1. Specialized equipment.
    - a. Hospital for cancer care.
    - b. Good laboratory.
    - c. Diagnostic X-ray service.
    - d. Radium.
    - e. High voltage X-ray for treatment.
- 2. Special Workers.
    - a. Pathologist.
    - b. Specialists in medicine and surgery who are interested in cancer.
    - c. Social Service Workers.
    - d. Out patient departments of hospitals.
    - e. Organized public health departments.
- 3. Interested citizens can interpret truth about cancer to friends and neighbors. 38 states now organized in the U. S. for cancer education. Under leadership of Dr. Little, former president of the University of Michigan and Mrs. Marjore B. Illig, New York, former Chairman, Division of Public Health, general Federation of Women's Clubs. Mrs. E. H. Heller, Louisville, former President, State Federation of Women's Clubs, leads this project in Kentucky, under guidance of State Medical Association.
    - a. 2,000,000 women banded together to carry on education on breast and uterine cancer.
    - b. Eight women's organizations in Kentucky organized; Federation of Women's clubs taking leading place.

The informed woman can help: Arrange for talks before women's groups and organize general community programs.

Give personal advice to friends and to persons employed in her home.

Refer interested people to literature on subject.

Place emphasis upon the fact that cancer is curable if seen early, and that everyone should know the suspicious signs which warrant consulting a doctor.

Conclusion: Lowering of death rate from cancer will eventually come about when all people generally are intelligent about the disease, know the ways in which the first signs appear and realize that the earlier the disease comes to the doctor's attention, the greater the chance of complete cure. A change of attitude from superstition and secretiveness to open acceptance of the problem, to be attacked as are other problems of health should be one outcome of the educational program.

Bibliography: Monthly reports of National Society for Cancer Research. On file in Graduate Library University of Kentucky.

CONGRATULATIONS!
TO THE GIRL GRADUATE

Mrs. S. H. Flowers, Philadelphia.

We send you greetings, my very dear,
On your graduation day.
May a million, happy, blessed things,
Be yours along the way.

May all the dreams your mother has,
Of what she wants for you
Be added to your youthful dreams
And all these dreams come true.

Dark clouds will sail across your sky
As clouds so often do—
Just remember, dear, tho' dark the day
Bright days will come for you.

Keep climbing, dear, up to the stars,
Seek highest goals above.
Let wisdom be your teacher
And God your greatest love.

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Tuberculosis

Mrs. Lucius Ernest Smith, Louisville, State Chairman.

LOOKING AHEAD IN TUBERCULOSIS

When, in 1673, Anthony Leunhoek, with his crudely ground lenses, opened the door into the realm of the theretofore invisible, he set the world thinking. It was something new. The great men of the age flocked to his humble cottage and thrilled at the mysterious revelations of the microscopic world.

It is doubtful that anyone then even dreamed of the importance of this great discovery. It remained for coming generations and passing centuries to show that man, the highest form of animal life, must master these tiny creatures in order to perpetuate his existence.

Some two-hundred years later Louis Pasteur, with the microscope, aided by stains and scientific knowledge, peered further into this world of mysteries.

The knowledge given to us by Dr. Koch was perhaps the greatest forward step in the history of tuberculosis control. It remained for others to perfect the tuberculin test, discover the stethoscope and the X-ray, but the great discoveries of Koch laid the foundation for the scientific developments that were destined to come with the passing of years.

The great problem of tuberculosis control remains unsolved today, not because of lack of knowledge. Whenever the knowledge we now have shall be widely and wisely used, this great destroyer of lives and homes will cease to be "Public Enemy No. 1."

The difficulty is not in a dearth of knowledge regarding tuberculosis, but in getting this knowledge across, even to our intelligent readers, in such way as will translate interest into action.

Just take a few minutes and study carefully the accompanying cut. Have you made sure that the tubercle germ is not influencing the pattern of your life? Have you had a careful chest examination to be certain there is no tubercle germ there? Remember, it has been shown that the average time elapsing between the secondary infection of tuberculosis and the appearance of the first symptoms is two and one-half years. The tuberculin test and the X-ray will pick it up a few days after infection takes place.

Why wait two and one-half years until symptoms appear? Symptoms are the result of damage done, and damaged lungs can never be the same after healing. Early tuberculosis can be cured, and, the earlier it is discovered, the greater the possibility of arresting the progress before permanent damage is done.

We all want to live and enjoy life, and yet it is so easy to let this preventable, controllable and curable disease get a damaging hold on us before we recognize its presence.

Why take a chance? Surely the readers of this Quarterly should be ready to lead the way to Early Diagnosis. **We should be sure we ourselves are safe, and then pass on the knowledge of how to be safe to others.** When we set the example before our friends, and in our respective communities, it will not be so difficult to convince others that protecting our health by regular examinations, carried out by competent physicians, is a valuable asset in assuring us happiness and comfort, as well as in protecting us from needless expense and loss of time due to illness. We should lead the way and ask others to follow.

When every reader of our splendid publication takes advantage of all our present knowledge concerning tuberculosis, and uses every opportunity to pass this knowledge on to others, a great step forward will have been taken in the fight against tuberculosis. This is a good time to begin. Let us keep in mind that education is of fundamental importance.

That Pattern of Yours

Your life's pattern, we mean.

Are you making it yourself? Or will the tiny tuberculosis germ make it for you?

12,000 young Americans between the ages of 15 and 25 will die of tuberculosis this year. Thousands more will enter sanatoria.

Find out about those lungs of yours today.

UNCOVER TUBERCULOSIS BY MODERN METHODS

Let the doctor be your guide

(Concluded On Page 106)

CHILD HEALTH AND WELFARE

Mrs. P. E. Blackerby, Louisville, State Chairman.

MOTHER CARE MEANS CHILD HEALTH

In order that our readers may have first-hand knowledge of how many of our Health Departments in Counties are cooperating with the medical profession and organized lay groups for the protection of women who anticipate childbirth, and through this service give assurance of healthier babies, we reproduce a nurse's report to her County Health Officer of her Maternal and Child Health program.

Many doctors' wives are found in the lay groups that are cooperating with Health Units in programs for mothers and babies, and it is a fertile field for our Auxiliaries. The National Federation of Women's Clubs, The National Congress of Parents and Teachers and The American Federation of Labor are all on record as urging a more intensive National interest in the problem of the conservation of Maternal and Child Life. The Nurse's report follows:

"I shall divide my work into four important phases of service and comment upon each. I. Maternal Hygiene; II. Infant and Pre-School Hygiene; III. School Health Program; IV. Adult Hygiene.

"In developing my program of service for the above groups, I have tried to consider two important aspects in each age group being served; Health Service and Health Education. Health Service is that service rendered directly to an individual and Health Education is that service rendered indirectly. In this brief summary it will be possible to give only a bird's eye view of the work that has been accomplished within the past few months, and that which is hoped to be accomplished in the future for the promotion of health in the above age groups.

"Maternal Hygiene: Before starting my work in maternal hygiene, I contacted each of the physicians and dentists in the city in order to become familiar with their wishes in my prenatal visiting and also to better acquaint them with the services we are trying to render to them and their patients. At this visit I obtained the usual routine standing orders of each physician and secured a list of the literature that they preferred to use in their prenatal cases. I tried to explain more fully what services the physicians might expect and receive through the County Health Department; home visiting, literature distribution, prenatal clinics and laboratory service.

"With these contacts made, it became necessary to secure teaching devices that might be used for the promotion of our maternal hygiene program. Through the assistance of various agencies in the city some unique demonstration material has been obtained as follows:

"Miniature Delivery Room Set-Up: This includes a doll-size furniture set with bed complete, table, chairs, basins, baby bed and other articles necessary for a home delivery. To improve upon this device, I attended two home deliveries that I might acquaint myself with the home delivery set-up as it is carried out in this Community.

"Baby Layette: Through the cooperation of W.P.A. Sewing Project, a complete baby's layette was prepared from flour bags. This device was made primarily to convey to the indigent mother that she may prepare for the new baby even though funds are limited. No one could be ashamed of the pretty little feather stitched coat, bonnet, dress, jacket and other articles which were made from this material.

"Baby Bed and Bed Side Table: Both bed and table were made from orange crates. To make the bed, middle section of the crate was removed, the box was lined with inexpensive cotton and then covered with gingham. The mattress was filled with pieces of cloth that had been chipped up for feathers. Even though this was intended to show the indigent mother how she might prepare an inexpensive and comfortable baby bed, mothers in better homes have prepared a baby's bed after this pattern to be used immediately following the arrival of the baby.

"In the process of making the bed-side table,

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something was added to the orange crate instead of taken away from it. Viewing the orange crate vertically, a rod from a broom stick was nailed in at the top for a towel rack. The crate was then draped with gingham curtains. The partition and lower floor of the crate served as shelves. This pattern also has found a temporary use in a few homes during the lying-in period.

"The Prenatal Clinic Instruction Room: It was felt that valuable time and opportunity were lost on Prenatal Clinic Days because there was not a room available where histories could be taken without interruptions, where patients could feel free to discuss their problems with the Nurse, and where the Nurse could give group instructions. Through the cooperation of the city, a Prenatal Instruction Room was made possible at a very small cost. This was accomplished by the moving of a beaver board partition and the rearranging of a group of cupboards.

"After this was done, I immediately set to work to arrange for a cheerful homelike environment where the desired purposes for the room could become a reality. With the assistance of my co-workers of the Health Department and the W.P.A. sewing project, the room was soon dressed; cretonne coverings to boxes, curtains to windows and coverings to chair backs and tables. Pictures, posters and a mirror add to the cheerfulness of the room. Lately, the woodwork and furniture have been revarnished and the floors varnished and waxed.

"On Prenatal Clinic Days I have attempted to use the various teaching devices to aid the expectant mother in the preparation for her baby. The room is usually set up with the various exhibits, namely; delivery bed set up, baby layette, baby bed, maternity clothing, bedside table, posters and other suggestive material that might be applicable to the needs of our mothers. When a mother attends a Clinic she is greeted by a Nurse and is ushered into the Instruction Room where her history is taken and preliminary prenatal care instructions are given her. And, here, after her return from the examining room, the physician's instructions are interpreted and stressed. Although at present, I have not been able to hold regular Maternity Classes, group instruction is given whenever an opportunity arises.

"I have obtained a great amount of enjoyment from this particular project. I feel certain that the expectant mother also has derived much help from this service.

Observation in Other Maternity Centers: To evaluate my work on Maternal Hygiene and to improve upon the nursing service I visited several Chicago Maternity Centers including the Prenatal Clinics at Chicago Lying-In Hospital. These visits were very helpful as well as enlightening.

"In the Maternal Hygiene program I have endeavored to correlate Health Education with Health Service in every way possible. Health Service is carried on through the Prenatal Clinics and home visiting. Four mornings a month I assist with the Prenatal Clinics, either in the Examining Room or in the Instruction Room. In addition, a large number of Non-Clinic Prenatal Cases are on my visiting list. These patients are under the supervision of the various physicians and have been referred to me to visit and to give Instructions regarding Prenatal Care. In each case an accurate record is kept and a report of the visit is sent to the physician in charge.

"At present I have a group of health conscious women in the community to aid in the transportation of the expectant mother to clinic. I firmly believe that much can be done by lay-helpers in promoting Maternal Hygiene in a community and will endeavor to place more emphasis upon this phase of the program next year: Infant and Pre-School Hygiene; School Health Program and Adult Hygiene.

"Because I am so firmly convinced of the

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fact that many problems of the infant, preschool, school and adult age will be solved when the expectant mother learns to place herself under the care of a competent physician or obstetrician as soon as she becomes conscious that she is pregnant, I have built these programs around this point.

"The Health Service Program of the Infant and Pre-School Age is carried out by means of: Child Health Conferences; Home Visits; Control of Contagious Diseases by means of Immunization and carrying out of Isolation Technique and Quarantine; assisting in securing aid for the Correction of Defects; demonstrating the preparation of Formula Making; assisting in Registration of Births and contributing to healthful environmental conditions. Health Education in each of these services is predominately emphasized."

HISTORIAN'S CORNER

Mrs. V. A. Stilley, Benton, Chairman.

This is the last call we can make to you through the Woman's Auxiliary Section, Kentucky Medical Journal—Part II, before our Annual Meeting at Berea, for biographies of pioneer doctors. Please "keep your eyes and ears open" for any history pertaining to our pioneers in the medical profession. Just a few days ago, in one of the county papers, we learned of one whom no one had remembered. The family is in possession of his card (the diploma) and we hope to get something more very soon. To any and all Secretaries of County Medical Societies: we are again asking your help, especially where there is no Woman's Auxiliary, and do please send in your material at the earliest date possible.

LOOKING AHEAD IN TUBERCULOSIS

(Continued from Page 103)

The Kentucky Tuberculosis Association is the only state-wide organization dedicated entirely to this phase of the problem. It is well equipped for this work but its usefulness is limited by its financial support, which comes entirely by the sale of Christmas Seals. Begin now to make plans for aiding the Christmas Seal Sale in December. We are counting on you.

JOSEPH A. JAGLOWICZ
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Louisville

SILVER ROSE BEAUTY SHOPS
A Permanent Wave Unexcelled For Loveliness and Naturalness
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PROCEEDINGS OF THE FOURTEENTH ANNUAL MEETING OF THE WOMAN'S AUXILIARY TO THE KENTUCKY STATE MEDICAL ASSOCIATION, HELD AT PADUCAH, KENTUCKY, OCTOBER 5-8, 1936

(Concluded from April Issue.)

REPORT OF PRESIDENT-ELECT

Plans for the Program of the Annual Meeting in Paducah were made, necessitating several trips to Louisville for interviews with the physicians invited to participate in our Program. One trip was made to Paducah for the arrangement of meeting places. I helped, too, with the re-organization of the McCracken County Auxiliary in Paducah.

In the re-organization of the Franklin County Auxiliary, I assisted Mrs. Luther Bach and enjoyed, with her, the delightful Tea given by Mrs. John G. South at her home in Frankfort, April 23, 1936.

Letters suggesting organization have been written to several different Counties, notably Fayette. Thus far, results are intangible, I regret to acknowledge.

I enjoyed greatly and profited from the honor of acting as one of your Delegates to the Annual Meeting of the American Medical Auxiliary held in Kansas City. Meeting and working with these fine women, interested wives of physicians from every State, is a privilege and gives one inspiration to try to do better Auxiliary work.

A number of activity programs have been prepared and presented to the County Auxiliaries.

One state-wide project has been planned and developed through letters and personal interviews with the members of our Advisory Council. About this, more will be given at the Post-Convention Board Meeting.

Respectfully submitted,
(Mrs. E. A.) AGNES BARNES.

HYGEIA REPORT

As Chairman of Hygeia, I presented in the January issue of our Quarterly, an appeal to all Auxiliary Members to go forth with the slogan adopted by our National Auxiliary—"Every member a subscriber or responsible for a subscription."

Mrs. James D. Lester, our National Chairman, has kept in close contact with the various County Chairmen. I can not give the exact number of subscriptions secured, but am happy to report that the Jefferson County Auxiliary has given a subscription to the Jane Todd Crawford Library in Greensburg.

May we all receive new enthusiasm for Hygeia work when we see the statue of Hygeia on the cover of our October Quarterly!

Respectfully submitted,
(Mrs. A. D.) THELMA STEELY.

REPORT OF ORGANIZATION COMMITTEE

Our work on organization began soon after my appointment as chairman of organization. Our vice presidents were assigned the four districts and requested to get in touch with the various doctors asking them to try to get new organizations and also to encourage the old ones in every possible way. Unfortunately, this report is incomplete as I have not been able to secure a full report from all the Counties. The following reports were received:

Mrs. W. E. Fallis—District 1

Number of counties	29	
Number of letters written	25	
Number of societies	29	
Number auxiliaries in dist.	5	
McCracken	22	paid
Ballard-Carlisle	12	paid
Calloway	3	paid
Graves	16	paid
Marshal	6	paid

Mrs. J. Paul Keith—District 2

Number of counties	33	
Number of letters	32	
Number old auxiliaries	4	
Jefferson	117	(11 new members)
Mercer	17	paid
Nelson	10	paid
Samson Community	22	paid

Mrs. W. T. Little—District 3

Number of counties	29	
Number of societies	29	
Number of letters	29	
Number of auxiliaries	1	
Franklin County	16	members

Mrs. S. B. Snyder—District 4

Number of counties	29
Number of societies	(no report)
Number of letters	(no report)
Number of auxiliaries	(no report)

Fayette County is favorable for organization and I hope my successor may see this accomplished.

Summary:

New auxiliaries	2	
New members	38	
Paid members	241	(incomplete)
Membership at large	36	
Honorary members	6	

As only paid memberships can be reported, in spite of new memberships our report may not equal that of last year. Let us all go back to our auxiliaries and stress payment of dues that all may be reported as members.

Respectfully submitted,
(Mrs. J. Paul) MYRTLE M. KEITH, Chairman.

REPORT OF PUBLIC RELATIONS COMMITTEE

It has not been my privilege to visit the County Auxiliaries of the State. Therefore, I have not stimulated the interest in Public Relations that contacts usually produce. I have been accessible at all times and have answered all correspondence and have furnished a limited amount of literature for use in Parent-Teachers programs. Prior to this meeting, I sent letters of inquiry to all active Kentucky Auxiliaries, asking them to report to me their Public Relations activities. A number of Counties reported. I shall bring to you in this report only a few of their outstanding accomplishments, as I am sure all activities of the several counties will be covered in the County Auxiliary reports brought to you this session.

Jefferson County Auxiliary reports an extensive study of the Federal Social Security Act. For a resume of their study, I refer to the April, 1936, issue of the Auxiliary Supplement.

Marshall County reports that through their connection with the Child Welfare Committee of the Woman's Club they helped the County Physician with the pre-school examinations.

Perry County reports garments contributed to hospital patients, and a program planned on Tuberculosis.

Campbell-Kenton Counties report very interesting Public Health meetings in which numbers of doctors, nurses, and the city enthusiastically took part. Other interesting activities of theirs, I'm sure, will be reported by their County Auxiliary.

Calloway County reports furnishing health literature to other local organizations.

Recommendations

As State Chairman, I recommend that you adhere closely to all Auxiliary Public Relations recommendations with which we are familiar, and which have already been projected in our state. May we remind ourselves at this juncture, that to know is not enough. We must execute if we are to get results.

In addition to the activities already estab-

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lished, I recommend that each member of our Auxiliary exert her every influence, through all accessible channels, against war, and its many evils. War is the terrible monster that leaves death and disease in its wake. War is nothing less than a temporary repeal of the principal oi virtue. It is a system in which nearly all the vices are included. If we could vividly portray, to our children the fiendish passions which reign in war and the disease, want, and degradation that follow war, surely our children would teach their children to hate war with a telling and righteous hate. Mothers, it is time that toy soldiers were abolished. We must disarm the nursery.

In connection with the foregoing recommendation, I present for your serious consideration recommendations from our National Chairman of Public Relations.

(Mrs. E. B.) JESSIE C. HOUSTON,
Chairman.

RECOMMENDATIONS FROM NATIONAL PUBLIC RELATIONS CHAIRMAN FOR COUNTY CHAIRMEN OF PUBLIC RELATIONS

1936-1937

1. Study recommendations and equipment from National and State Chairmen.

2. Consult President of County Auxiliary and Advisors about county work as recommended and about plans for essay contests, Speakers' Bureau, radio broadcasts, press notices; health programs for and in lay organizations; cooperation with Summer Round Up; selection and distribution of educational material; program and reading material for your Auxiliary; Hygeia booths at Fairs, etc.

3. Have a Public Relations Committee of members having experience and membership in other organizations. Include some members who are new in the work as it is our constant purpose to train others to succeed us in this work. Call a meeting as soon as your county plans are prepared and discuss objectives, plans, procedure, equipment for the year; assign definite projects to each member.

4. Discuss plans with the Auxiliary President and Chairman of Program and secure a regular time at every Auxiliary meeting to give public Relations' Facts.

5. Ask each Auxiliary member to give you a list of lay organizations of which she is a member and the committees and chairmanships in them to which she belongs; urge members to ask for places on health committees; to accept chairmanships and learn plans of such committees; to give their Presidents health information which your Auxiliary is promoting; to attend the meetings where speakers on health participate and report unwise and unacceptable programs and activities; to offer a list of material; to recommend Hygeia; to explain the Speakers' Bureau of your Medical Society to them.

6. Compile list of city and county lay organizations with names and addresses of their Presidents and health chairmen; if possible, have copies made for your members, but at least for your President and officers.

7. Have one or more County Public Relations Programs for lay organizations in your county. Details of plans for such an event may be secured from your State Chairman.

8. Have a National Handbook, a subscription to the National News Letter; read the Auxiliary pages in the A. M. A. Bulletin; in State Journal of your Medical Associatión; be on the mailing list of your State Board of Health; read and contribute to your State Auxiliary News. Write to your State Chairmen for data on their plans as it is necessary to know all phases of Auxiliary work, when engaged in Public Relations work.

9. Consult your advisors, President, State Chairman whenever in doubt; educate members; equip those who are assisting and remind members that no one need to try do more than she understands or that is convenient at a given time.

10. Suggest books, articles to read which will add to their appreciation of the Medical Profession and Medical Arts and give them a foundation for Public Relations work.

Remind each member that she is a part of the public and that her attitudes and activities are influencing the relations of our own particular sections.

LEE E. CRALLE CO.

FUNERAL DIRECTORS

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LOUISVILLE, KY.

REPORT OF CHAIRMAN OF FINANCE

From July 1935 to July 1936

In the report of the Treasurer we find the following statements:

Savings Account

LOUISVILLE TRUST COMPANY, Louisville, Refunding Certificate			46.67
LOUISVILLE TRUST COMPANY, Louisville,			
July 18, 1935 Savings Account Balance		60.92	
Interest	1.21		
Less Government Tax	.06	1.15	62.07
	1.15		

Balance on hand	116.97
1935	
July, Dues received	1.50
Aug. Dues received	3.00
Sept. Dues received	16.50
Sept. Sale of Booklets	1.30
Oct. Dues Received	11.50
Nov. Dues received	2.00
1936	
Feb. Dues received	1.00
March Sale of Booklets	.70
April Dues received	59.00
May Dues received	21.00
June Dues received	2.00
July Dues received	16.00
Total Receipts	135.50

DISBURSEMENTS—

1935	
Sept. To Mrs. Greenwell for Delegate Cards	1.55
Sept. To Mrs. Greenwell for Office Supplies	30.90
Oct. To Mrs. Steely for Postage	3.00
Oct. Bank Charge	1.00
Nov. Dues to Southern Medical Auxiliary	13.00
Nov. Times-Journal Co. for Stationery	22.54
Dec. To Mrs. Moore on Luncheon	.83
Dec. Bank Charge	1.00
1936	
March Dues to A. M. Auxiliary	62.25
June Bank Charge	1.10
Total	137.17

SUMMARY—

July 1935 Balance	116.91
Receipts to July	135.50
	252.41
Disbursements	137.17
Balance	115.34

Respectfully submitted,
(Mrs. B. K.) EMMA MENEFEE.

WOMAN'S AUXILIARY KENTUCKY STATE MEDICAL ASSOCIATION

Budget for 1936-1937

ESTIMATED RECEIPTS			
Balance On Hand	116.91	A. M. A. Dues (25c per member)	65.00
Estimated Dues	130.00	S. M. A. Dues (1.00 per Aux.)	15.00
		COMMITTEE EXPENDITURES	
		Archives	2.00
		Finance	2.00
		Hygeia	3.00
		Jane Todd Crawford	3.00
		Legislation	2.00
		Office Supplies	10.00
		Organization	4.00
		Printing	10.00
		Postage	15.00
		Public Instruction	2.00
		Public Relations	2.00
		Radio	2.00
		Stationery	25.00
		Tuberculosis	2.00
		Discretionary Fund	50.00
		Surplus	32.91
Total Estimated Income	246.91	Total Estimated Expenditure	246.91

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500 Fehr Ave. Louisville
A. B. Sawyer, Jr., President and General Manager

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Safes opened and combinations changed
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KLEIN BROTHERS
209 South Sixth Street
Louisville, Kentucky
WA. 1935

A MESSAGE FROM THE BUSINESS MANAGER*

My Friends:

Today, we hear and read much about a better use of our leisure time. Colleges and specialty schools offer many plans and formulas which they hope will solve this great American problem. Advice and instruction are freely given about all sorts of handicraft, slum-working, bridge playing and reading.

Women do have more leisure time today; by this I mean freedom from household drudgery which the invention of multiple electrical devices has relegated to the Dark Ages. For some, this leisure means lazy passivity; others are acquiring knowledge, accumulating thought material from contact with thinkers or things which reflect thought and vision. In short, our new leisure enables more women to live their lives on a higher plane.

It is almost two years now, since Mrs. McCormack called me to her apartment and asked me to assume the business part of the Quarterly. Well, my heart almost stood still. I experienced a strange admixture of fear and exaltation and asked for time to consider the matter, to consult my family (this is an old Spanish custom of ours). Some of them encouraged, others discouraged me but my good husband egged me on and said "Go to it, it may be a good way to use some of your leisure time." So, after a thorough exorcism of many doubts and complexes, I took the job and like it more every day.

Getting an advertisement or collecting a bill is the first step toward overcoming an inferiority complex, if you have such a thing. And, getting the first ad will afford excitement and thrill enough to fill a page in your diary.

The first is the hardest; any beginning always is, but "The beginning is half the thing."

The Woman's Auxiliary to the Kentucky Medical Association has fourteen (14) integral parts; if each part or unit would pledge, we'll say, three advertisements for the Quarterly (this is not at all impossible), we would think it a most dazzling achievement. And the women themselves would experience a sensation of accomplishment, along with a definite freedom from those doubts and fears which tease and fret so many of us on our first business venture.

The first interview with a prospective advertiser has brought ads on some occasions. Many business men are right now planning heir advertising budget for the year 1937. There are go-getters in every group; why can't you be the one in your Auxiliary to get an advertisement for your Quarterly? Make your plans on your journey home and put them to work as soon as you get there; resolve to get ahead of the other fellow.

It hardly seems fair to expect the women of Jefferson County to shoulder all the task,

---

*Read, Quarterly Luncheon, Oct. 6, 1936. Irvin Cobb Hotel.

Kentucky & Indiana Terminal Railroad Company

OHIO RIVER BRIDGE

Where three trunk railroads and two trunk highways, U. S. 31-W and U. S. 150 connecting with Indiana highways 33, 62 and 64, cross a trunk waterway.

SPECIAL WEEK-END ROUND TRIP TICKETS,

good for passenger automobile and occupants, including chauffeur, on sale at toll houses for 50 cents.

COUPON BOOKS - - - $1.25 value for $1.00
COUPON BOOKS - - - $6.00 value for $5.00
W. S. CAMPBELL, Vice-President and General Manager
LOUISVILLE, KY.

Shawnee 5860 2910 N. Western Parkway

does it? However, in 1936, only one ad was procured by a woman outside of Jefferson County; Mrs. E. A. Barnes displayed rare business acumen in obtaining an ad from a Louisville merchant. You, too, may have friends in business in Louisville.

If you know that you cannot get ads, would you consider an equivalent donation? There are numerous way of raising money for financing our project; sponsoring parties, oyster suppers, luncheons, picture shows, musicales, and little theatre productions are a few of them. And this is the seasonal time for such affairs; when the spirit and the flesh are rejuvenated after the dry, hot winds of the summer. You have our very best wishes for a howling success in this your first undertaking.

Truly yours,
(Mrs. Wm. H.) VIRGINIA E. EMRICH,

REPORT OF THE DOCTOR'S SHOP COMMITTEE

The Doctor's Shop in Harrodsburg still needs your help in every way. Please make an effort to locate equipment which will add to the atmosphere of the Shop. Both books and instruments will be more available to the public if properly displayed.

The following articles have been received this year:

1. Saddle Pockets. Donated by Mrs. George T. Fuller, Mayfield, Kentucky.
2. Splint. An old wooden splint donated by Miss Lena Bell, Harrodsburg, Kentucky.

A number of articles have been promised during the year but they have not been sent to the committee.

The following articles have been placed on display in the Doctor's Shop during the year:

1. Pair Scales, more than 150 years old used for weighing medicine. Donated by Mrs. R. L. Goad, Hazard, Kentucky.
2. Antique Tooth Forceps. Donated by Mrs. G. W. Kirk, Shepherdsville, Kentucky.
3. Leather Case containing 18 various small instruments and a collection of 23 other antique instruments more than 100 years old. Used by Dr. S. B. Richardson, grandfather of Dr. John B. Richardson, Jr., Louisville. Presented by Dr. John B. Richardson, Jr. Secured by Mrs. George A. Hendon.
4. 1 Pair Saddle Pockets. Donated by Mrs. George T. Fuller, Mayfield, Kentucky.

Let us remind you again that we have no furniture or book cases for the Doctor's Shop. We hope that you will set this as one of your goals for the coming year. We trust that by the end of the coming year each Auxiliary will be represented in the Doctor's Shop by some article.

Respectfully submitted,
(Mrs. T. O.) MABEL MEREDITH.

SPECIAL COMMITTEE REPORT

For the Special Committee appointed at the Post-Convention Board Meeting to arrange for the purchase of a suitable safety box for the storage of valuable papers belonging to the Auxiliary, Mrs. Hugh N. Leavell, unable to be present, sent the following letter.

Louisville, Kentucky.
The Filson Club, Inc.
July 27, 1936.

Louisville, Ky.
Mrs. Hugh N. Leavell,
Dear Mrs. Leavell:

We want to acknowledge to you and through you the Woman's Auxiliary of the Kentucky State Medical Society, the receipt of the interesting papers which you are placing with us as a loan. These consist of:

Filing Box containing biographical sketches of Doctors, alphabetically arranged, typed, correspondence, several letters, one sheet "Introduction" seems to be to History of American Medicine.

Tribute to Mrs. W. F. Boggess, 1 page.

Ephraim McDowell, 7 typed pages Oct. 1931 "for Southern Medical Aux."

List of the transactions of the Ky. State Medical Assn. in Vault at State Board of Health 1851-1902, with a sheet of missing. etc.

Extracts from Annual Report of Public Instruction Com. Sept. 1, 1931, The Jane Todd Crawford Memorial Project, 7 typed pages.

"The Pennyrile Doctor" by J. R. Coleman, M. D. 2 pages.

Jane Todd Crawford, Pioneer Heroine of Surgery by Mrs. A. T. McCormack. 6 pages typed.

Last Will and Testament of Mrs. William M. Irvine of Richmond, Ky. 17 pages typed (Copy).

Presidents of County Auxiliaries, 1917-1928. 1 page.

Most Active Counties of Woman's Auxiliary of the Ky. State Medical Association, 1 page typed.

1929-1930 Plan of Work for the Jane Todd Crawford Memorial. 7 pages typed.

"Our Pioneer Heroine of Surgery, Mrs. Jane Todd Crawford" by Mrs. Arthur Thomas McCormack, pamphlet.

Envelopes containing biographical sketches of Doctors arranged by counties: Ballard, Carlisle, Barren, Bourbon, Calloway, Fulton, Garrard, Graves, Lincoln, McCracken, Marshall, Nelson, Perry. Medical Pioneers of Kentucky, edited by J. N. McCormack.

Stories and Superstitions.

Annual Reports.

Newspaper items concerning "The Doctor Shop."

Leaflet McDowell Day Program of the Southern Medical Assn., Saturday, Nov. 15, 1930.

Leaflet "Father and Son," Dr. Robert S. Coleman and J. R. Coleman.

"A Retrospect of Surgery in Kentucky" by Irvin Abell, 1926, book, 64 pages.

The Quarterly W. A. K. S. M. A. Vol. 1, 1932. Woman's Auxiliary Section K. M. J. Vol. 2, 1933. Woman's Auxiliary Section K. M. J. Vol. 3, 1934. Bound.

Scrap Book 1931-1932.

Scrap Book 1933-1934.

Bulletin Woman's Auxiliary of the Southern Medical Assn. Nov. 19-22, 1934, 2 copies—pamphlet.

Program 84th Annual meeting of the Ky. State Medical Assn., Harlan, Ky., Oct. 1, 2, 3, 4, 1934.

Minutes and Reports of the Twelfth Annual Meeting of the Woman's Auxiliary to the American Medical Assn., Cleveland, June 11-15, 1934.

Kentucky, by C. C. Howard, M. D. President's Address before the Kentucky State Medical Assn., Harlan, Oct. 1-4, 1934. Pamphlet, 11 pages printed.

Kentucky Medical Journal, Nov. 1934.

Kentucky Medical Journal, Woman's Auxiliary Section for 1934. Jan., April, July, Oct., and July, 1935, unbound.

An envelope marked "Mrs. P. E. Blackerby, Chairman Archives," containing carbon copies of biographical sketches of Doctors and Supplement to Ky. Med. Jour. Sept. 1935.

LOUISVILLE APOTHECARY, Inc.

"Ask your Doctor" about this "Prescription Drug Store"

337 W. Broadway **Louisville, Ky.**

As told you in person we are delighted to have these as a loan, and will take the very best care of the material that we can, putting it on our shelves for use, and will catalogue as soon as we can get to it, but we cannot be responsible if something should be stolen. These will have the same care that our own papers have which is we think, making them perfectly safe here.

Our plan is to put the papers now in envelopes under counties in a binder under counties, and also the biographical sketches in alphabetical order in binders so that they cannot be misplaced or easily taken out. We hope this meets with your approval.

These can be withdrawn only by or through the order of an officer of the Woman's Auxiliary Kentucky State Medical Association.

Thanking you, we are,

LUDIE J. KINKHEAD, Curator.

REPORT OF THE RADIO CHAIRMAN

A great part of the work of the Radio Chairman has been to develop larger listening audiences and to acquaint our County Auxiliaries with the broadcasts of the American Medical Association, those presented by the State Department of Health and the talks sponsored by the Jefferson County Woman's Auxiliary. In October, letters were sent to our County Presidents giving details of these weekly Health Talks of the National, State and County organizations.

In December, letters were again sent to the Presidents urging them to create and stimulate local interest in these schedules of broadcasts and the special talks celebrating Jane Todd Crawford Day, which the Woman's Auxiliary of Jefferson County and the State Department of Health presented on December 12th and 13th respectively.

Jefferson County, with Miss Grace Stroud in charge, has carried out a very active program during the past year. From Sept. 12th to June 1st, 1936, thirty-seven (37) talks were given over Station WAVE; a complete list of which accompanies this report. Another interesting broadcast credited to Jefferson County Woman's Auxiliary was the tribute to Dr. Crawford W. Long in celebration of Doctor's Day given over WAVE on March 26th, 1936. All these talks were given by members of the Jefferson County Medical Society.

Another schedule of interest is the talks given by members of the State Department of Health. These broadcasts are on the air during Women's Interest period every Thursday morning at 8:30 over WHAS. I am including a list of these talks for the next three months.

In our "Radio Waves" column in the Quarterly, I have endeavored to keep our readers informed of these various broadcasts and radio news. Letters were sent to the radio stations WAVE and WHAS, thanking them for the use of their respective stations.

Respectfully submitted,

(Mrs. Wm. H.) VIRGINIA E. EMRICH.

List of Radio Talks arranged by Miss Grace Stroud, Chairman Jefferson County Woman's Auxiliary, can be found on the following pages of the 1936 volume of the Quarterly: pp. 61,62—(April); p. 103—(July). Mrs. Carlisle Morse succeeds Miss Stroud as chairman for 1936-37.

REPORT OF ARCHIVES COMMITTEE

As Archives Chairman for the past year it has been my pleasant task to compile a scrapbook from newspaper publicity of the various county activities.

In response to my request for news to go into this book I wish to acknowledge receipt of one newspaper clipping from Calloway County, two clippings from Campbell-Kenton Counties, four clippings from Graves County, fifty-four clippings from Jefferson County, one clipping, two splendid pictures of Fort Harrod and one booklet from Mercer County, five clippings from Perry County and thirteen clippings from the Sampson Community Hospital Auxiliary.

This fifty-six page record of our work was placed on exhibit at the annual meeting of the Woman's Auxiliary to the American Medical Association held in Kansas City, Missouri, in May, 1936.

In accordance with a motion passed at the last annual meeting all Archives and other valuable data of the State Medical Auxiliary have been placed for safe keeping at the Filson Club in Louisville, Kentucky.

Respectfully submitted,

(Miss) GRACE STROUD, Chairman.

CHILD HEALTH AND WELFARE

I regret to acknowledge that your Chairman has accomplished so little this past year. Due to the interest, kindness and co-operation of Mrs. A. T. McCormack and Mrs. John C. Rogers, the Auxiliary Quarterly has carried an article or message in each publication.

Respectfully submitted,

(Mrs. P. F.) ELIZABETH AKIN BARBOUR.

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Receivers, Distributors, Jobbers, Commission Merchants
FRUITS AND VEGETABLES
LOUISVILLE, KENTUCKY

REPORT OF HISTORICAL COLLECTIONS

A total of 19 Historical items, including biographical sketches, pictures and other historical data have been received and filed during the past year from the following Counties:

Fayette	1
Marshall	10
Mercer	6
Nelson	2
Total	19

Respectfully submitted,

(Mrs. V. A.) MAY COLEMAN STILLEY,
Chairman.

REPORT OF CALLOWAY COUNTY

The Calloway County Medical Auxiliary has a small paid up membership, which endeavors at all times to stand by our County Health Unit. Each of our members hold membership in other organizations for women and often serve on Civic and Health Committees. Health literature has been furnished for distribution.

Our Auxiliary has a county Scrap book, which we hope will prove interesting to our boys and girls in after years.

We have recently become interested in "The Doctor's Shop" at Harrodsburg, and Mrs. Hugh L. Houston has been appointed county chairman for this work.

We have made small contributions this year for the publishing of "The Supplement," also to the Jane Todd Crawford Memorial Fund.

We appreciate "The Supplement" that comes to us quarterly and regret that we have not co-operated more helpfully with Mrs. Emrich and Mrs. McCormack in the publishing of it. These women with their helpers merit our thanks and hearty support. The advertisers in its columns should have our patronage and support when possible.

We enjoy annually our association with you women from over the State and wish in closing to express our appreciation to Mrs. Bach and her corp of officers for carrying on so beautifully this past year and for bringing us together again in this interesting meeting at Paducah, where our every need and pleasure has been attended to by the wives, mothers, and daughters of the McCracken County physicians.

Respectfully submitted,

(Mrs. E. B.) JESSIE C. HOUSTON,
President.

THE CLAY CAFETERIA
310 W. Chestnut
HOME OF GOOD FOODS
Special Dinner Served Every Thursday
Also Every Evening

TRIGG COUNTY HAMS
Country Cured
Kentucky has the best. We have the best in Kentucky. Let us supply you
J. W. COWHERD & CO., Cadiz, Ky.

REPORT OF GRAVES COUNTY

The Auxiliary to the Graves County Medical Association met at Hall Hotel, Mayfield at 3:00 p. m., September 7th, 1936, for our annual meeting, to elect officers for the new year, also to elect delegates to our State meeting in Paducah, October 5-9.

We had nine members present and a very interesting meeting. We had three new members to report, Mrs. William Loney McGehee, Mrs. Jacob Mayes, and Mrs. Robert G. Ashley. We put these new members into service, thought they would be more interested if we gave them something to do: all except Mrs. Mayes, who is Superintendent of Nurses at Mayfield Hospital, and we felt that she would be too busy to hold any office in the Auxiliary.

Graves County Auxiliary now has eighteen active members.

We donated $5.00 to the Jane Todd Crawford Fund and $2.00 to the publication of The Quarterly. I think all of our members get a real treat in reading The Quarterly.

We observed the Jane Todd Crawford Day December 13th, met at the home of Mrs. H. V. Usher for Radio Program.

We opened the meeting by President giving the story of Jane Todd Crawford in a brief manner explaining why we were celebrating this day; then had Mrs. Geo. T. Fuller, our first President, read the invocation of Dr. Phifer that was given at the unveiling of Jane Todd Crawford Monument at Danville, May 30th, 1935. Then the McDowell prayer was read by Mrs. Usher. After the Radio program ceased, we filed into the dining room, where a three course luncheon was served.

We observed Doctor's Day at Hall Hotel, Mayfield.

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We had our next meeting scheduled for June in the form of a picnic on the lawn, but on account of sweltering weather, postponed until July.

July days seem to be even worse than June, so our next meeting was held August 26, at High Content Farm, home of Dr. and Mrs. E. C. Walter near Mayfield, where a group of sixteen members and five visitors assembled on the lawn and enjoyed a feast; then had a very interesting meeting. The vice president, Mrs. J. R. Pryor, presided in the absence of the president, Mrs. H. V. Usher, who was called to the bedside of her sister-in-law, who was seriously ill at Chattanooga, Tenn.

Our Hygeia and Tuberculosis Chairman had no report to make. We promised to buy our Christmas Seals from our Chairman, instead of elsewhere.

Respectfully submitted,
(Mrs. H. V.) TREVA JONES USHER,
Past President and Delegate.

REPORT OF JEFFERSON COUNTY

The Woman's Auxiliary to the Jefferson County Medical Society held four regular Luncheon and Business Meetings and three Executive Board Meetings during the year. The attendance was very good. There were interesting speakers and entertaining musical programs at these meetings.

We have at the present time a paid membership of 117 with 11 new members the past year.

The Sewing Unit which meets at the home of one of the members the second Tuesday of every month, from October to June, has had a very large attendance and made numerous garments which have been distributed to the poor and needy. A very successful and enjoyable card party was given by the Sewing Unit on February 5th to raise additional funds to carry on this very worthwhile work. The box sent by the Sewing Unit this year to the Frontier Nursing Service, contained 38 dolls dressed by the members, a number of toys, quilts and different articles of infant clothing.

The Study Class met the first Monday of each month, from October to June. Each program was very interesting and included original papers by the members, book reviews and current events.

Jane Todd Crawford day was observed by our Auxiliary at the regular December luncheon meeting and by a program on both local radio stations on December 13th. A number of books and magazines have been secured for the Jane Todd Crawford Library at Greensburg.

On Doctor's Day, March 30th, the members of our Auxiliary entertained their "doctors" with a party. Everyone enjoyed a very interesting talk by Dr. Virgil Simpson which was followed by a musicale. Refreshments were then served.

The Hygeia Chairman reports nine new subscriptions to Hygeia this year.

The Hospital and Welfare Committee made regular visits to the different hospitals. They also trimmed trees at Christmas for the children at the Children's Hospital and presented them with gifts of toys and fruit. They also decorated the Psychopathic Wards at the City Hospital. Through the efforts of this committee, and the co-operation of the Sewing Unit, a party was given at Easter and Christmas time for the children at Camp Taylor Health School and a birthday party was given for 32 girls at Waverly Hills Sanitorium.

The Radio Committee through the courtesy of our local radio station WAVE has been able to broadcast a five-minute health talk by one of our doctors every week.

The Tuberculosis Committee working in cooperation with the Louisville Tuberculosis Association at Christmas had charge of the sale of Christmas Seals on December 13th, 14th and 15th, members worked in three hour shifts from 9:00 a. m. until 5:00 p. m.

Our Historian reports that she has secured biographies of nine physicians in Kentucky

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this year and a copy of each was sent to the State Historian.

We have been able to secure one very interesting article for the Doctor's Shop. It is a very old style instrument which was used in the removal of tonsils.

Our Publicity Chairman has been active throughout the year and by her efforts our meetings and social events have had splendid publicity.

Respectfully submitted,
(Mrs. Curt H.) Edna B. Krieger,
President.

REPORT OF MARSHALL COUNTY

Marshall County Auxiliary has been inactive this year, only one regular meeting with the old officers of 1935 serving for 1936. All but two or three of our members live several miles distant from Benton. However, through correspondence we have accomplished a few things we are happy to report.

We have six paid-up members, one paid-up member for 1937.

Mrs. V. A. Stilley, our County and State Historian, has mailed 12 copies of Biographers to the Kentucky State Medical Association. Being our Hygeia Chairman, also, she has distributed Hygeia to 12 teachers in the County together with 24 Health playlets.

The Auxiliary has contributed $12.00 worth of cod liver oil, one $1.50 thermometer, several pairs of pajamas and Health Literature to a destitute family where the father and two grown daughters are ill with tuberculosis. There are several smaller children in the family. Several pieces of clothing have been given to other needy families; also few magazine subscriptions have been given to shut-ins that could not afford this luxury.

Our County Health Unit has charge of the Tuberculosis Seal sale but we always help in any way, because of our interest in the control of Tuberculosis in our County and State.

We want to express our thanks to Mrs. McCormack and her co-workers for our enjoyment of The Quarterly this year and will try to show our appreciation next year with something more substantial than a thank you.

We hope to have a much better report for next year. May I express my sincere regrets in not being able to attend the State meeting which I am sure will be most enjoyable.

Respectfully submitted,
(Mrs. W. S.) Zora Stone, President.

REPORT OF MERCER COUNTY

The Mercer County Medical Auxiliary is composed of sixteen members. The meetings are held the third Monday of each alternate month beginning in September and through May. Our programs this year have been made-up of book reviews and current events.

The Pioneer Doctor's Shop which is located in our community, is one of our chief interests.

Four boxes of toys and books were sent, early in December, to The Frontier Nursing Service, Inc., under the direction of Mrs. Mary Breckinridge for Christmas distribution.

Eighteen books were sent to the Jane Todd Crawford Memorial Library at Greensburg.

Last January, the Mercer Auxiliary sponsored a program on Tuberculosis for the P. T. A., with Dr. L. E. Smith, Louisville, Executive Secretary of the Kentucky Tuberculosis Association, as speaker.

We plan to have a Sewing Unit for the A. D. Price Hospital this coming year.

Our first meeting for 1936-37 will be held in the form of a picnic at the Van Arsdal Lodge on Lake Herrington.

Respectfully submitted,
(Mrs. Green L.) Woodie S. Johnson,
President.

REPORT OF McCRACKEN COUNTY

The McCracken County Auxiliary reports reorganization and preparations for this State meeting now being held in our city, Paducah, with the McCracken County Auxiliary as host. A group of Auxiliary members were on hand daily to assist with registrations, answer questions, direct delegates and furnish transportation to any place in the city.

The meetings were held just around the corner from the Irvin Cobb Hotel, Convention Headquarters at the Woman's Club, with both the large and small auditoriums at the disposal of the State Auxiliary; small rooms for Committee Meetings, and luncheon served in the dining room up-stairs.

A room at the Cobb, with a Hostess in charge, was open for our visitors at all times,

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for cards or small parties. Arrangements were were made for guests to play golf at both Country Clubs during their free hours.

On one free afternoon, the McCracken County Auxiliary was host to a Tea at the Paducah Country Club, and the other free afternoon, a trip to the Ancient Buried City at Wickliffe, Ky., was sponsored. Fifteen cars were furnished by the members of our Auxiliary.

Respectfully submitted,
(Mrs. J. B.) BLANCHE ACREE, President.

REPORT OF NELSON COUNTY

The Woman's Auxiliary to the Nelson County Medical Society has had regular meetings on alternate months since the beginning of our fiscal year—November 1st.

Our organization continues to be quite small—hence our accomplishments are few. However, in December we honored Jane Todd Crawford with a public meeting, inviting the other clubs of Bardstown. We were happy to have Mrs. A. T. McCormack present this tribute to our heroine.

Our chairman of tuberculosis was very successful with the Christmas seal sales. The total receipts were $59.55. This amount was much more than we have had for several years.

We have continued our clippings, both for our own scrapbook and for the State book. Also, our chairman of Cancer Control is making a scrapbook of clippings pertaining to developments in cancer research.

At our March meeting the life of Dr. Crawford W. Long was presented, and we are heartily in accord with this tribute adopted as Doctors' Day. May we continue to honor our great medical men.

In response to an appeal from the Kentucky Crippled Children Society, we took an active membership of $2.00.

We are looking forward to a visit to the Crawford Library and home in Greensburg sometime in October.

Respectfully submitted,
(Mrs. A. D.) THELMA STEELY.

REPORT OF PERRY COUNTY

We really have not done very much the past year. We have learned a good deal by our studies, and enjoyed our contacts with each other. Two things stand out as very beautiful in our minds: At the October meeting Mrs. N. G. Riggins told us about her very enjoyable trip to Mexico City, showing us cards, pictures and souvenirs. At the November meeting we had a very clear moving picture on Tuberculosis given by one of our Public Health nurses, Miss Sturgill.

We helped with the sale of Christmas Seals and have spent $8.50, in making happy, one of our young men friends in Hazelwood Sani-

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torium. During the past year we have given $5.00 (Nov.) to the Quarterly and $5.00 (Nov.) to the Jane Todd Crawford Fund.

Our program for the coming year has been made out.

Respectfully submitted,
(Mrs. C. M.) FLORENCE ANDERSON,
President.

REPORT OF THE SAMSON COMMUNITY HOSPITAL DISTRICT

The Woman's Auxiliary to the Medical Staff of the Samson Communtiy Hospital District had nine meetings during the year 1935-1936. Three of these were all-day meetings held at Norris Nurses' Home, during which time we sewed, made bandages and dressings for the Samson Community Hospital. This donation was greatly appreciated by the Superintendent, Miss Lydia Haas. At these meetings luncheon was served to about a dozen members, who represented Barren, Clinton, Hart, Metcalfe and Monroe Counties. After each of these active days we have returned to our homes feeling that we have contributed our bit to this great cause, that we have united our efforts in this sisterhood and we like to dwell on the thought that "In union there is strength." The social hour has added much to this kindred spirit of co-operation.

Another meeting at which the spirit of good fellowship prevailed was "Our Family Dinner" honoring our guest speaker, Mrs. A. T. McCormack, who spoke on the "Social Security Act."

A meeting at which friendliness and hospitality had full sway was the banquet served at the Spottswood Hotel, Glasgow, Barren County, in honor of the husbands of our Auxiliary, members and of our State President, Mrs. Luther Bach, as guests. About 25 doctors were present.

We have secured one twenty dollar advertisement for "The Quarterly."

We have sponsored T. B. essay contests in the Junior High, and High Schools of our county. Prizes were given and awarded at Glasgow on commencement night along with certificates and high school diplomas.

We have sent one girl from Clinton County to Hazelwood for treatment. We have also provided transportation and necessities for her.

One child has been taken to the Children's Free Hospital in Louisville for treatment.

Two children have been taken to Lexington Hospitals for treatment—plastic surgery—for severe burns on hands.

Donations have been sent to Kentucky Children's Home at Lyndon amounting to: three hundred cans of fruit, three bushels of potatoes, and $13.60 in cash.

Motion pictures have been borrowed from the State Department of Health and shown in two of our theaters.

A Fourth of July program given at Albany, Clinton County, proved to be a notably enjoyable feature of the community, when an all-day affair was made of it. There were four guest speakers present. A "Baby Show" in the afternoon with first, second, and third prizes given and races for children added much to the success of the day. A "Hog-Calling" contest was another feature. In the evening the High School Auditorium featured "Amateur Night," in which a number participated. Voice, piano and other instrumental solos were offered. The proceeds from this program practically paid all expenses, including all printed matter, phone bills, posters, band, microphone, etc.

A Christmas box of necessities and useful articles including toiletries and clothing was sent to Hazelwood.

Respectfully submitted,
(Mrs. C. C.) HOWARD, President.

(Proceedings Concluded.)

News From The Counties

CAMPBELL-KENTON

During January we planned separate lectures on venereal diseases for boys and girls of adolescent ages, in both Campbell and Kenton Counties. The flood came and these plans were "Gone with the Wind."

In February we had our regular meeting after which we served refreshments of cake and coffee to our doctor husbands.

In March we sponsored a lecture on Cancer Control, which was supported by the Woman's Field Army for the Control of Cancer, the Woman's Clubs, and other organizations of Northern Kentucky. Had it not been one of the worst days of the winter—making driving dangerous—we would have had a much larger audience to hear Mrs. E. H. Heller, Louisville, State Commander of the Woman's Field Army for Cancer Control and Dr. Van Meter of Lexington, who gave us a marvelous discussion of Cancer Control and to see the very interesting movies on the subject which had been procured for the occasion. However, much interest was awakened and since that time several talks

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have been given by Northern Kentucky doctors before the various clubs.

In April, Dr. Hadley Caldwell lectured on Cancer at a regular meeting of the Dayton Monday Club in the home of Mrs. Luther Bach of Bellevue.

In May, our annual banquet was held at the Highland Country Club. Mrs. A. T. McCormack of Louisville was our guest of honor. In addition to her inspiring talk on Auxiliary work we were entertained with a group of vocal solos by Miss Roulette of Covington, some readings by Miss Marie Farrell of Bellevue, and instrumental solos by Miss Gertrude Lanham at the piano and Byron Bach on the cello.

Then Mrs. B. K. Menefee took charge of the installation of our new officers. Mrs. Hadley Caldwell was inducted into office as President, Mrs. C. A. Menefee as Vice President, and Mrs. H. C. White as Secretary-Treasurer.

GRAVES

The Woman's Auxiliary to the Graves County Medical Society met at Hotel Hall, Mayfield, April 23rd, with the President, Mrs. R. G. Ashley, in the Chair. Following the reading and approval of the Minutes of the last meeting, reports were made by the various Chairmen of Committees. Aid in the campaign against cancer, including donations, has been given by the Auxiliary members.

The project of educating the school children of Mayfield and Graves County in the prevention of Venereal Diseases is to be undertaken, Dr. H. H. Hunt, County Health Officer, announces, through the co-operation of the County Board of Health, Graves County Medical Society and Auxiliary, and the State Board of Health. Lectures to separate groups of boys will be given by Dr. J. Drescher, of the U. S P. H. S., and by Drs. Hunt, H. V. Usher and W. J. Shelton. Lectures to the girls will be given by Mrs. H. V. Usher and Mrs. L. L. Wright, members of the Auxiliary.

The members present were asked to contact all eligible women for Auxiliary membership and invite them to join. Visitors at the meeting were: Miss Mabel Holland, Amarillo, Texas; Mrs. A. K. Jones, Sedalia, Kentucky; Mrs. L. L. Wright, Boaz, Kentucky, a former member who hopes to become active again.

Mrs. W. T. Vaughan was elected Assistant Historian of the Auxiliary.

Adjournment until the June meeting, followed the social hour.

Members of the Junior Chamber of Commerce, after a talk on Cancer Control by Dr. W. J. Shelton, contributed $10.00 to the local cancer education program.

Dr. E. C. Walter lectured to the Mayfield Women's Club on the subject of Cancer Control, after which the Club contributed $22.51 for the prevention of cancer.

HARDIN

The Hardin County Auxiliary cooperated with the Woman's Club of Elizabethtown and sponsored a public meeting on Cancer with Dr. Guy Aud, Louisville, as the speaker. The good sized audience practically filled the Court House.

The Hardin County Auxiliary plans to assist the local physicians and dentists in the summer round-up for school examinations.

Mrs. C. F. Long, our Secretary, has our sympathy in the passing of her father, Mr. Walter Lyons, in April.

McCRACKEN

"I'm afraid the McCracken County Auxiliary has a very poor report to date. We rather "played around" during the fall, just clearing up business from the State Meeting and stressing the social side of things. However, we had made rather elaborate, and I think decidedly constructive plans for health work, through talks both over the radio and at Parent-Teachers League meetings at different schools, when along came "Ole Man River" and routed us out of our homes. And Lo and Behold, we found ourselves "Rivergees," decidedly pathetic looking, in our worst old clothes, marooned in strange places, and doing unheard of things.

Since the flood, everyone has been too busy rehabilitating to take on any outside work. But now that we're about fixed up, we are drifting back into things.

The first meeting of the Auxiliary since Christmas will be held next week, at which time we hope to renew our plans for health talks over the radio, elect our officers for next year and get things started."

More news held over for October because of lack of space.

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KENTUCKY MEDICAL JOURNAL, PART II
WOMAN'S AUXILIARY SECTION

519 Tenth Street Bowling Green, Ky.

Vol. VI. October, 1937 No. 4

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Christmas Seal Sale plans may be secured through our State Chairman, Mrs. L. E. Smith, 439 Fairlawn, Louisville. Now, is not too early to begin for a successful Sale.

THE PRESIDENT'S MESSAGE

Hail! And—Farewell!

Mrs. E. A. Barnes, Albany

When you read this, I will be Madame X—(Madam Ex-President). For, this issue of The Quarterly goes to press on September 1st so that you may receive it off the press on October 1st. But—in the meantime, our Annual Meeting is scheduled for September 13-16, at Richmond. Then, will be installed our new President, Mrs. S. C. McCoy, who will really be the President when you read this. Writers and publishers have to work in the future, I've learned. So do program-makers! There's so much to learn!

Again, may I remind you that our State Auxiliary is the only one that, yet, has the privilege of publishing a supplement to the State Medical Journal. This is a precious privilege and a very great responsibility. We, you and I, must give our Editor and Business Manager and their assistants more active cooperation—money donations and advertising contracts to pay the cost of publication; prompt sending in of our reports, news, stories, poems and articles to fill the columns of reading matter; sympathy and understanding, with helpful, constructive suggestions for the many problems and difficulties in building a magazine. For, it is a very real task to build a magazine and this fine piece of work must be continued.

The Quarterly is not only the mouthpiece of our organization; it is the permanent record of our development and progress. We want to grow in usefulness to the medical profession and we need a record to help us to profit from our accumulating experiences. Our State Medical Association has, through this supplement to their own cherished Medical Journal, given us this golden opportunity of having an effective mouthpiece and a permanent record. So—let us all, with gratitude, make the most of it!

I want to take this opportunity to thank each State Chairman and each County President for the splendid work done this year. It has been a great privilege for me to have worked with such a fine group. Perhaps, some of you, because of the Flood Disaster, feel that your work has been incomplete. But—I want you all to know that I am satisfied that you each did the best you could. "Angels can do no more." I am proud of you and grateful to you for your every effort.

Particularly, do I wish to call to your attention, the excellent work of our Archives Chairman in the splendid exhibit of the Flood Disaster at our National Convention

(Continued on Page 124)

-:- EDITORIALS -:-

COME TO THE SOUTHERN

The Southern Medical Association and Woman's Auxiliary meets in New Orleans, November 30-December 4, 1937. Do plan to attend with your husband. Auxiliary Headquarters are at the Roosevelt Hotel.

JANE TODD CRAWFORD DAY

Jane Todd Crawford Day is approaching. Monday, December 13, is the date. What are your plans for commemorating this important date? Please write the State Chairman, Mrs. A. T. McCormack, Brown Hotel, Louisville, and tell her what your plans are and when you intend to observe this important anniversary.

PRESS-TIME CALLS

With this issue of the Quarterly off the press, we complete six years of experiment, growth and expansion in our pioneer publication, The Kentucky Medical Journal—Part II—Woman's Auxiliary Section. Six long, lean, years! This last year dank—as well as lank! But—Oh! how short the interim between press-time calls!

The Editor is convinced that the first of March, June, September and December spin around the calendar more speedily than any other months. For, those are the dates when all "copy" is supposed to have left the Editor's hands and gone to the Printer! But —alas! Too seldom is this the case! Because, you know, the Editor cannot give the Printer the "copy" until after she first has received it! And—she has never, yet, received it until after it has been sent to her by the Auxiliary members. The Editor must wait for County News Items, feature articles, pictures, poems, reports, articles, stories, etc., until they arrive in the mail or are placed in her hands.

Then, after she does receive the material, it must be prepared for the printer. And—that preparation, courteously termed editing, takes time, much more time, really, than the Editor can actually give it, particularly, if the item arrives after the 25th of the month preceding the press date. Five days is really not long enough to allow for editing, either, as your Editor can work for you only during leisure hours and her leisure is limited.

So—if you will kindly arrange to have your contribution reach the Editor as early as possible, at least 5 days before press-time, you will help her to do better work for you as well as for the Quarterly.

THE PRESIDENT'S MESSAGE

(Continued from Page 123)

in Atlantic City, June 7-11, 1937, and, through her, I wish to express, not only for myself, but, also, for the entire Auxiliary, deep appreciation to the State Department of Health and to the Louisville City Health Department for their generous and helpful assistance in making this exhibit a success which brought forth many favorable comments and high compliments from physicians and Auxiliary Members of far-away States attending the American Medical Association's Annual Meeting.

Now, with our new President, Mrs. Stephen Clifford McCoy, I am confident we will carry-on with better understanding of what a Medical Auxiliary can be and give greater service to our physicians than ever before. When well-informed ourselves, we can, in our work with other organizations, interpret to the lay public the high and altruistic purposes of the medical profession as no other persons can possibly do. For, you know—we live with the members composing the profession!

Again, let me bid you each a fond farewell as your President, an office I esteem great honor to hold. May the years bring greater numbers in our membership and increased, active interest in our privileged work! I shall always be proud to be one in service with you.

A WORD FROM MRS. S. C. McCOY

As the time draws near for our Annual Meeting to be held in Richmond, we are all looking forward to that event with great pleasure, for at this time we have the opportunity of mingling with friends and making new acquaintances in our Auxiliary.

At this Annual Meeting, I realize that I am to become your State President and assume the duties of that office. In accepting this responsibility, it shall be my earnest endeavor to render a service in that capacity that may show to you my appreciation of the honor you have given me.

If I am able to convey to every Doctor's wife in Kentucky the merits of our organization, my goal will have been reached. The brilliant administration of my predecessor can be equalled only by the most serious thought and purposeful action. However, the loyal support of the members, as manifested in the past, justifies one in the attempt.

Christmas Seal Sale Time! Almost here! Are your plans complete for this year's Sale? Let's make this the best year, yet.

AIMS

Of the Kentucky Medical Auxiliary

1937-1938

Mrs. Stephen C. McCoy, Louisville, President

Be guided by our Advisory Council in all Auxiliary activities.

Each Auxiliary study and know the State Health Laws.

Promote the sale and study of Hygeia.

Promote unity and friendship through fellowship; assist in entertainment at County, District, and State meetings.

Each Auxiliary President appoint Chairmen for all approved State Committees.

Sponsor Child Health and Welfare programs with other Organizations.

Continue work on Jane Todd Crawford Memorial.

Stimulate, encourage, and sell advertising contracts for our Quarterly.

Further the aims and improvements of the Doctor's Shop.

Develop work on Cancer and Tuberculosis Control and the prevention of these diseases.

News items of Doctor's families and reports of Auxiliary activities, be sent in to the Editor before the first of December, March, June and September.

Develop Radio programs and increase listening audiences for health programs.

Each Auxiliary file Constitution and By-Laws with the State Parliamentarian.

Familiarize ourselves with the life and works of Dr. Joseph Nathaniel McCormack, and help erect a Memorial in his honor at Bowling Green.

Cooperate with the American Medical Auxiliary, and keep in close touch with the Southern Medical Auxiliary.

Medical Arts Prescription Shop
Incorporated
Exclusive Prescription Specialists
C. F. CHAPMAN, Manager
311 W. Broadway Jackson 5345
Louisville

CONSTITUTION AND BY-LAWS

of the

WOMAN'S AUXILIARY, KENTUCKY STATE MEDICAL ASSOCIATION

CONSTITUTION

Article 1—Name

The name of this organization shall be the Woman's Auxiliary to the Kentucky State Medical Association.

Article 2—Object

The object of the Auxiliary shall be to extend the aims of the medical profession, through the women members of families of physicians to other organizations which look to advancement in health and education; to assist in entertainment in State, District and County society meetings; to promote acquaintanceship among doctors' families, that local unity and harmony may be increased.

Article 3—Membership

(a) The membership of the Woman's Auxiliary to the Kentucky State Medical Association shall be composed of the membership of the Woman's Auxiliary to the County Medical Societies.

(b) The wives of members of County Medical Societies living in districts where there are no Auxiliaries may be invited to affiliate with the nearest County Auxiliary; or they may, as Members of the State at Large, send dues, One Dollar annually, to the State Secretary.

Article 4—Officers

The Officers of this Auxiliary shall be a President, a President-Elect, four Vice-Presidents, a Secretary, a Treasurer, and a Parliamentarian. (A Corresponding Secretary may be appointed by the President.)

Article 5—Executive and Advisory Boards

(a) These officers, together with the County Presidents and the Chairmen of State Committees and the last three Past-Presidents of the State Auxiliary shall constitute an Executive Board to conduct the business of this Auxiliary.

(b) A regular meeting of the Board shall be held immediately before and after each an-

ESTABLISHED 1876
635 South Fourth Ave.
Telephone: Wabash 3443
Haupt
FLORIST
221 West Jefferson Street
Telephone: Jackson 0274
Louisville. Kentucky

LOUISVILLE FIRE & MARINE INSURANCE COMPANY
SPEED BUILDING LOUISVILLE, KY.
Doctors! Ask our agents about our Valued Automobile policy.

nual meeting of the organization. Special meetings may be called by the President, or may be called upon written request of seven members of the Board.

(c) Four members of the Board shall constitute a quorum.

(d) The Executive Board shall have all power and authority over the affairs of the organization during the interim between its meetings, excepting that of modifying any action taken by the organization, and provided that no debt or liability, except for current expenses, shall be incurred by the Board. The Board is authorized to transact business by mail if necessary.

Article 6—Elections

(a) All officers shall be elected by ballot.

(b) The term of office of the Officers, with the exception of the President-Elect, shall begin at the close of the Annual Meeting at which they are elected. The term of office of the President-Elect shall begin at the close of the next Annual Meeting following the meeting at which she was elected. All officers serve one year, except the Secretary and the Treasurer who may be re-elected.

(c) All officers should be present at the meeting at which they are elected.

(d) A nominating committee shall be elected by the Executive Board to present a list of officers and representatives at the annual meeting; this committee to be composed of five members, not more than two of whom may be members of the Executive Board.

Article 7—Meetings

The meetings of the Woman's Auxiliary shall be held at the same time and place as the meetings of the State Medical Association. All members of County Auxiliaries have the privilege of attending the general meetings, but only accredited delegates may vote in the business of the meeting.

Article 8—Delegates

Each County Auxiliary shall be entitled to send its president and her alternate and one delegate and her alternate to each meeting. These accredited delegates with the members of the Executive Board form the voting body.

Twelve voting members shall constitute a quorum at any meeting of the organization, five of which shall be members of the Executive Board.

Article 9—Dues

A. Each County Auxiliary shall pay annually dues to the State Auxiliary at the rate of fifty cents per capita; this to include the dues of twenty-five cents per capital to the Woman's Auxiliary, American Medical Association, and the dues of one dollar per county organization, to the Woman's Auxiliary, Southern Medical Association. The dues, payable January 1st, should be sent to the National Auxiliary Treasurer and to the Southern Auxiliary Treasurer, by the State Treasurer.

B. Members of the State-at-Large shall pay their dues at the Annual Meeting or send them to the State Treasurer at that time.

C. A newly formed County Auxiliary shall pay an initiation fee of $2.00 in order to obtain representation at its first State Meeting. Thereafter, it shall pay its full membership dues at the rate of fifty cents per member to the State Treasurer at the end of the County Fiscal Year, as herein before provided.

Article 10—Amendments

This Constitution may be amended at any regular meeting of the Auxiliary, provided written notice has been sent each County Auxiliary, not less than two months prior to said meeting.

Article 11—Parliamentary Authority

The rules contained in Cromwell's Compendium of Parliamentary Law shall govern this organization in all cases to which they are applicable, and in which they are not inconsistent with this Constitution and By-Laws.

BY-LAWS

Duties of Officers

The duties of the President, Vice-Presidents, Secretary and Treasurer shall be those which usually devolve upon such officers.

The duty of the First Vice-President shall be to act as chairman of organization.

2—Committees

The President and Executive Board shall have power to create such committees as become necessary to promote the welfare of the Auxiliary, providing, insofar as practicable, committees to correspond with the national standing committee.

3—Meetings

All meetings of the Auxiliary and the Executive Board shall be conducted according to the regular order of business and parliamentary laws which usually govern such meetings.

4—Quorum

Four members of the Executive Board shall constitute a quorum.

5—Amendments

These By-Laws may be amended at any meeting of the Executive Board or at the Annual Meeting of the Auxiliary by a two-thirds vote of the members present, provided such amendments do not conflict with the spirit of the Constitution.

JOSEPH A. JAGLOWICZ

GOWNS

Wabash 1434 309 Speed Building

Louisville

AUDITOR'S REPORT

EXTRACT FROM THE AUDITOR'S REPORT TO THE COUNCIL OF THE KENTUCKY STATE MEDICAL ASSOCIATION

To The Council of The Kentucky State Medical Association—Woman's Auxiliary.

Mesdames:

In connection with an examination of the records of The Kentucky State Medical Association for the period from September 1, 1936 to September 1, 1937, I followed customary procedure and examined the records of the former Treasurer, Mrs. Edna R. Krieger, and her successor, Mrs. Luther Bach, and those of Mrs. William H. Emrich, Business Manager of the Auxiliary's publication, "The Quarterly."

Exhibits and statements submitted herewith set forth in detail the financial transactions of the Auxiliary and "The Quarterly" as reflected by the records of the respective Treasurers and Business Manager.

Cash transactions for the period, as reflected by these statements, were verified to the extent that all recorded receipts were traced to amounts shown by bank statements on file, and all recorded disbursements paid by the bank were evidenced by officially signed canceled checks on file. Balances on deposit with banks were verified by direct communication with the depositaries.

I wish to express appreciation of the courtesies and helpful assistance rendered by those in charge during the course of the examination.

Respectfully submitted,
(Signed) P. WILLETT HAGAN,
Certified Public Accountant.

Accounts of the WOMAN'S AUXILIARY To The KENTUCKY STATE MEDICAL ASSOCIATION

EXHIBIT "A"

RECEIPTS

Gross dues received		$114.50	
Less American Medical Association Auxiliary dues	$ 69.25		
Less Southern Medical Association Auxiliary dues	13.00	82.25	
State Dues Received			$ 32.25
Miscellaneous Receipts			6.00
Total Receipts for 1936-37			$ 38.25

DISBURSEMENTS

Office Supplies, Postage and Clerical Help		$ —	
Printing and Stationery		29.00	
Miscellaneous		15.68	
Tax and Bank Charge		—	
Transfer of Dues		1.00	
Total Disbursements			$ 45.68
Cost over collections on 1936-1937 Operation			$—7.43
Balance on hand August 1, 1936, First National Bank, Bardstown Road Branch Louisville			115.24
Balance on hand August 1, 1937, Campbell County Bank, Bellevue, Kentucky			$107.81

SAVINGS ACCOUNT

Louisville Trust Company, Louisville, Refunding Certificate No. 14258			$ 46.67
Louisville Trust Company, Louisville, August 1, 1936, Savings Account Balance in name of Mrs. Curt H. Krieger		$ 62.07	
Interest	$ 1.24		
Less Government Tax	.06	1.18	
Total Savings Account Deposited in Louisville Trust Company, Louisville August 1, 1937			63.25
Balance, August 1, 1937, Jane Todd Crawford Memorial Fund			735.07
Total Assets			$952.80

Transfer of Treasurers

Mrs. Curt H. Krieger, Treasurer,
August 1, 1936, to September 26, 1936:

Balance on hand August 1, 1936	$115.25	
Receipts through September 26, 1936	18.00	
Disbursements through September 26, 1936		$ 15.67
Balance transferred to Mrs. Luther Bach, September 27, 1936		117.56
	$133.24	$133.24

Mrs. Luther Bach, Treasurer,
September 27, 1936, to August 1, 1937:

Balance transferred from Mrs. Curt H. Krieger	$117.56	
Receipts from September 27, 1936, to August 1, 1937	102.50	
Disbursements from September 27, 1936, to August 1, 1937		$112.25
Balance in Bank August 1, 1937		107.81
	$220.06	$220.06

EXHIBIT "B"

Jane Todd Crawford Memorial Fund

1936-1937

Balance Forward, August 1, 1936				$711.60
1936				
Aug. 1—Calloway County Auxiliary			$ 1.00	
Sept. 10—Graves County Auxiliary			5.00	
1937				
Jan. 1—Breathitt County Auxiliary			3.82	
Receipts for Year			$ 9.82	
1936				
Dec. 31—Interest	$7.13			
1937				
July 1—Interest	7.26			
		$ 14.39		
Less Government Tax		.74	$ 13.65	
Total Receipts for Year				23.47
Total Receipts to date, Agreeing with Bank Balance, August 1, 1937				$735.07

EXHIBIT "C"

Paid Membership to August 1, 1937

	1933	1934	1935	1936	1937
Ballard-Carlisle	..	12	10	5	..
Breathitt	..	..	..	17	17
Calloway	6	5	4	3	3
Campbell-Kenton	24	11	10	5	16
Franklin	..	..	..	11	24
Graves	17	..	14	15	17
Hardin	..	..	..	12	..
Harlan	..	..	16	..	..
Jefferson	36	83	116	121	65
Licking Valley District	..	..	..	..	18
Madison	..	..	..	..	35
Marion	..	1	..	..	..
Marshall	8	6	6	6	..
McCracken	..	..	..	23	10
Mercer	..	..	..	17	16
Nelson	8	10	10	9	9
Perry	27	22	23	18	..
Samson Community Hospital	..	..	19	24	17
State at Large	17	20	23	9	15
Totals	143	170	235	294	262

EXHIBIT "D"

Detailed Statement of Receipts and Disbursements of Mrs. Edna R. Krieger, Treasurer, Woman's Auxiliary, Kentucky State Medical Association, from August 1, 1936, to September 26, 1936; and Mrs. Luther Bach from September 27, 1936, to August 1, 1937.

1936	Receipts	Disbursements
July Balance Forward	$115.24	
July 15—Dues, State at Large (Marshall Co.) Mrs. O. A. Eddleman, R. F. D. No. 16, Benton, Kentucky	1.00	
July 16—Dues, State at Large, Mrs. C. P. Coogle, 1310 Colorado St., Austin Texas	1.00	
Aug. 24—Dues, McCracken County, 23 members	11.50	
Aug. 31—Dues, 1936, Ballard-Carlisle Counties, 5 members	2.50	
Sept. 18—Initiation Fee, Franklin County	2.00	
Sept. 21—Check No. 59, Mrs. Luther Bach, President's Expense		$15.68
Oct. 29—Dues, Nelson County, 9 members, Mrs. E. D. Mudd, New Haven, Ky.	4.50	
Nov. 9—Dues, State at Large, Mrs. W. B. Atkinson, Campbellsville, Ky.	1.00	
Nov. 9—Dues, State at Large, Mrs. J. Y. Barbee, Scottsville, Ky.	1.00	
Nov. 9—Dues, State at Large, Mrs. J. E. Edwards, Lancaster, Ky.	1.00	
Nov. 9—Dues, State at Large, Mrs. M. D. Garred, 820 Rogers Court, Ashland, Ky.	1.00	
Nov. 9—Dues, State at Large, Mrs. Lottie Graves, Scottsville, Ky.	1.00	
Nov. 9—Dues, State at Large, Mrs. L. C. Hafer, Covington, Ky.	1.00	
Nov. 9—Dues, State at Large, Mrs. J. H. Horton, Burnside, Ky.	1.00	
Nov. 9—Dues, State at Large, Mrs. C. W. Justice, 440 Elm St., Ludlow, Ky.	1.00	
Nov. 9—Dues, State at Large Mrs. W. M. Martin, Louellen, Ky.	1.00	
Nov. 9—Dues, State at Large, Mrs. H. M. Meredith, Scottsville, Ky.	1.00	
Nov. 9—Dues, State at Large, Mrs. C. R. Morton, 245 West Broadway, Madisonville, Ky.	1.00	
Nov. 9—Dues, State at Large, Mrs. J. G. VanDermark, Covington, Kentucky	1.00	
Nov. 15—Check No. 1 to Mrs. Oliver Hill, S. M. A. dues		13.00
Nov. 30—Check No. 2 to Kenneth Michaels for printing credential cards		4.00
Dec. 8—Check No. 3 to Mrs. C. W. Shaw, Requested transfer of Mrs. J. G. VanDermark to membership in Campbell-Kenton Auxiliary		1.00
Dec. 8—Dues, 3 members of McCracken Co. Auxiliary	1.50	
Dec. 8—Dues, Mrs. Hugh Houston, Calloway County Auxiliary, Murray, Kentucky	.50	
Dec. 8—Dues, State at Large, Mrs. Chas. Vance, Lexington, Kentucky	1.00	
Dec. 8—Initiation Fee for Breathitt County—Date, October 6, 1936, but temporarily misplaced	2.00	
1937		
Jan. 8—Dues, State at Large, 1936 and 1937, Mrs. A. W. Davis, Madisonville, Kentucky	2.00	
Mar. 13—Dues—Money-order cashed by Mrs. Shaw and returned to Treasury	2.50	
Mar. 22—Dues, for Graves County Auxiliary Mrs. Lillian McGee Shelton, Treas.	8.50	
Mar. 28—Dues, Hardin (1936)	6.00	
Mar. 30—Dues to A. M. A. Auxiliary, (Mrs. Eben J. Carey)		69.25
April 2—Check to Times-Journal Publishing Company for Stationery		25.00

April 13—Dues, State at Large, Mrs. S. H. Flowers, 3607 Chestnut St., Philadelphia, Pa.	1.00	
April 10—Dues, Jefferson County, Mrs. Walter Hume, 2218 Village Drive, Louisville, Ky.	$24.50	
May 3—Dues, State at Large, Mrs. C. F. Coogle, 1809 Colorado St., Austin, Texas	1.00	
May 27—Dues, Samson Community Hospital, Mrs. C. C. Turner, Glasgow, Ky.	8.50	
June 7—Dues, Mercer County, Mrs. R. T. Ballard, Harrodsburg, Ky.	8.00	
June 21—Initiation Fee, for Licking Valley Auxiliary, Mrs. C. T. Haley, Brooksville, Kentucky	2.00	
July 25—Dues, McCracken County, Mrs. Wm. V. Eaton, Jr. Rhodes Apts., Paducah, Kentucky	5.00	
July 27—Dues, State at Large, Mrs. M. M. Martin. Louellen, Kentucky	1.00	
July 27—Dues, State at Large, Mrs. W. M. Martin, Louellen, Kentucky	1.00	
July 29—Dues, Franklin County Auxiliary, May Blackburn, Frankfort, Kentucky	2.00	
Total Receipts	$235.74	
Total Disbursements		$127.93
Balance on hand, Campbell County Bank, Bellevue, Kentucky		107.81
	$235.74	$235.74

EXHIBIT "E"

Collections and Disbursements by Mrs. William H. Emrich, Business Manager, from August 1, 1936, to August 1, 1937, on account of The QUARTERLY, Supplement to The Kentucky Medical Journal, corresponding with checks, deposits and receipts filed.

RECEIPTS

Receipts from Advertisers—Aug. 1, 1936, to Aug. 1, 1937:			
Old Accounts Paid:			
1934 Accounts	$ 10.00		
1935 Accounts	24.25		
1936 Accounts	101.75		
Total Collections Old Accounts	$ 136.00		
1937 Accounts	836.91		
Total received from Advertisers			$ 972.91
Contributions			53.00
Commission on Advertising in Kentucky Medical Journal			9.91
Loan from Mrs. William H. Emrich			20.00
Total Receipts 1936-1937			$1,055.82

DISBURSEMENTS

Expense of Quarterly		$1,106.01	
Repayment of Loan to Mrs. Wm. H. Emrich		20.00	
Bank Service and Tax		.22	
Total Disbursements 1936-1937			1,126.23
Cost over Collections on 1936-1937			—70.41
Balance in Liberty Bank and Trust Co., Louisville, beginning of period			127.01
Total Balance Agreeing with Bank Balance as of August 1, 1937, Liberty Bank and Trust Co., Louisville	$ 76.84		
Less Check No. 20, outstanding (To Cash for stamps and express)	20.24		
Net Balance			$ 56.60
Check No. 152—Kentucky Medical Association in transit for deposit			13.59
Total			$ 70.19
Accounts Receivable:			
1935 Accounts	$ 25.75		
1936 Accounts	31.25		
1937 Accounts	146.25		203.25
L. & N. Scrip Books No. 400 & 401	$ 60.00		
Less—Portion sold for cash	6.90		53.10
Total Assets			$ 326.54
Liabilities:			
Accounts Payable			....
Net Worth			$ 326.54

EXHIBIT "F"

Contributions to THE QUARTERLY

1936	
July 15 Marshall County Auxiliary	$ 1.00
July 20 Mrs. Frank W. Cregor, Indianapolis, Ind.	1.00
Aug. 30—Dr. Curt Krieger (For 25 copies of Quarterly)	6.75
Sept. 1 Graves County Auxiliary	2.00
Sept. 25 Mrs. E. B. Houston, Murray, Ky.	1.00
Oct. 16 Mrs. H. V. Usher, Sedalia, Ky.	1.00
Nov. 13 A Friend (Through Mr. J. G. Denhardt)	12.50
Nov. 14 Miss Grace Stroud, Louisville, Ky.	1.00
Nov. 30 Mercer County Auxiliary, Mrs. R. L. Ballard	2.50
Dec. 2 Mrs. B. S. Preston, Charleston, W. Va.	1.00
Dec. 2 Southland Electric Supply Co., (Through Miss M. Flynn)	5.00
Dec. 8 Jones Apothecary (Through Miss Simone Thompson)	11.25
Dec. 8 Mrs. A. B. Terrell, Jr., Louisville T. B. Association, Louisville, Ky.	1.00
1937	
Jan. 16 Mrs. E. A. Barnes, Albany, Kentucky	1.00
May 21 Mrs. C. C. Turner, Treas., Samson Community Hospital Auxiliary	5.00
Total Contributions July 15, 1936, to August 1, 1937	$ 53.00

EXHIBIT "G"

THE QUARTERLY

Accounts Receivable

Firm	Agent	Amount	
1935			
Cusick Studios	Mrs. J. Rivers Wright	$ 11.25	
Jones Cafe	Mrs. Margaret Martin	6.25	
Old Stone Tavern	Mrs. J. I. Greenwell	8.25	$ 25.75
1936			
Haupt, Fred	Mrs. A. T. McCormack	5.00	
Model Drug Company	Mrs. David Cohen	11.25	
Paine, Ruth	Mrs. S. McCoy	15.00	31.25
1937			
Brown Hotel Flower Shop	Mrs. Sidney J. Myers	11.25	
Clay Cafeteria (Bankrupt)	Ruth Flagg	11.25	
Brooks-Denhard Surg. Instrument Co.	Mrs. William H. Emrich	20.00	
Haupt, Fred	Mrs. A. T. McCormack	15.00	
Herbold-Russman	Ruth Flagg	11.25	
Louisville Chemical Company	Mrs. G. A. Hendon	11.25	
Model Drug Company	Mrs. David Cohen	11.25	
Nash, A., Company	Mrs. A. T. McCormack	15.00	
Silver Rose Beauty Shop	Mrs. A. T. McCormack	11.25	
Times-Journal Publishing Company	Mrs. William H. Emrich	8.75	
Wilderness Road Book Shop	Mrs. G. A. Hendon	20.00	146.25
	Total		$203.25

STATEMENT OF CASH RECEIPTS AND DISBURSMENTS

RECEIPTS	Receipts	Disbursements
September, 1936	$ 27.03	
October, 1936	83.25	
November, 1936	119.50	
December, 1936	159.27	
January, 1937	39.77	
February, 1937	432.85	
June, 1937	60.85	
July, 1937	133.30	
Total Receipts	$1,055.82	

DISBURSEMENTS

October 15, 1936—Check No. 13, Times-Journal	$ 233.31
November 20, 1936—Check No. 14, Bush-Krebs	8.87
December 23, 1936—Check No. 15, Payment of loan from Mrs. W. Emrich plus $9.81 expenses for stamps and express charges	29.81
January 21, 1937—Check No. 16, Times-Journal	251.37
January 21, 1937—Check No. 17, Bush-Krebs	6.17
June 6, 1937—Check No. 18, Times-Journal	301.84
July 23, 1937—Check No. 19, Times-Journal	274.40
July 30, 1937—Check No. 20, Cash for postage and express	20.24
Total Disbursements	$1,126.01

Total Balance Agreeing with Bank Balance of Aug. 1, 1936, Liberty Bank and Trust Co., Louisville	$ 127.01	
Total Receipts, Sept. 1936, to Aug. 1937	1,055.82	
Receipts Total	$1,182.83	
Disbursements Total		$1,126.01
Balance on deposit Aug. 1, 1937	$ 56.82	
Bank Tax		.22
	$ 56.60	

DETAILS OF ADVERTISEMENTS

Advertisements from September, 1936 to August 1, 1937 for Publication

FIRM	AGENT	Contract	Paid
Barbee Radiator Co.	Miss Simone Thompson	$ 6.50	$ 6.50
Bornwasser Cafeteria	Mrs. G. A. Hendon	6.50	6.50
Broadway Motors	Mrs. S. J. Meyers	20.00	19.60
Brown Flower Shop	Mrs. S. J. Meyers	11.25	
*Bush-Krebs	Mrs. W. H. Emrich	11.25	Service
Cherokee Sanitary Milk Co.	Mrs. Wm. H. Emrich	11.25	11.25
Cowherd, J. W. & Co.	Mrs. A. T. McCormack	11.25	11.02
Clay Cafeteria	Mrs. Ruth Flagg	11.25	
Cralle, Lee E.	Mrs. A. T. McCormack	35.00	34.30
Deckel, Chas.	Mrs. G. A. Hendon	20.00	20.00
Denhard, Brooks	Mrs. Wm. H. Emrich	20.00	20.00
Denunzio, Jos.	Mrs. G. A. Hendon	11.25	11.25
Ewing Von-Allmen	Mrs. A. T. McCormack	100.00	100.00
Gatchel, W. D. & Sons	Mrs. G. A. Hendon	6.50	6.50
Gilliland Laboratories	Mrs. A. T. McCormack	100.00	100.00
Grocers Baking Co.	Mrs. A. T. McCormack	60.00	60.00
Hampton Crackers	Mrs. A. T. McCormack	35.00	34.30
Haupt, Fred	Mrs. A. T. McCormack	30.00	15.00
Herbold-Russman	Mrs. Ruth Flagg	11.25	
*Hesse, H.	Mrs. A. T. McCormack	11.25	Service
Imorde, B. & W.	Mrs. J. C. Rogers	6.50	6.37
Jaglowicz, Jos. A.	Mrs. A. T. McCormack	11.25	11.02
Jefferson Co. Milk Commission	Mrs. G. A. Hendon	20.00	19.60
Kentucky Book Mfg. Co.	Mrs. A. T. McCormack	11.25	11.02
Kentucky Dairies, Inc.	Mrs. Wm. H. Emrich	11.25	11.00
Kentucky and Indiana Term. R. R.	Mrs. A. T. McCormack	60.00	60.00
Klein Bros., Locksmiths	Miss Mayme Sullivan	11.25	11.25
Louisville Apothecary	Mrs. G. A. Hendon	11.25	11.02
Louisville Chemical	Mrs. G. A. Hendon	11.25	
Louisville Fire & Marine Ins.	Mrs. A. T. McCormack	11.25	11.02

*Louisville & Nashville R. R. Co.	Mrs. A. T. McCormack	60.00	Service
Louisville Varnish Co.	Mrs. A. T. McCormack	20.00	20.00
Medical Arts	Mrs. D. Cohen	11.25	11.02
Meffert Equipment Co.	Miss M. Sullivan	11.25	11.25
Model Drug Co.	Mrs. D. Cohen	11.25	———
Muth Optical Co.	Mrs. Wm. H. Emrich	11.25	11.25
Nash, A. Co., Tailors	Mrs. A. T. McCormack	20.00	5.00
*Newman Drug Co.	Mrs. S. J. Meyers	20.00	8.00
Oehrle, Edw.	Mrs. S. C. McCoy	6.50	6.37
Premier Paper Co.	Mrs. A. T. McCormack	20.00	20.00
Schardein, T. S. & Sons	Miss M. Sullivan	11.25	11.25
Silver Rose Beauty Shop	Mrs. A. T. McCormack	11.25	———
Southern Optical Co.	Mrs. Wm. H. Emrich	20.00	19.60
Standard Oil Refinery	Miss Simone Thompson	60.00	60.00
Stoll Oil Refinery	Mrs. Wm. H. Emrich	20.00	20.00
Tafel Surgical Instr.	Mrs. G. A. Hendon	20.00	20.00
Times-Journal Pub. Co.	Mrs. Wm. H. Emrich	35.00	26.25
Tway, R. C.	Miss Marg. Flynn	6.50	6.50
Wildnerness Road Bookshop	Mrs. G. A. Hendon	20.00	———

*Bush-Krebs, Engravers, paid in service
*H. Hesse, Photographer, paid in service
*L. & N. Railroad, paid in scrip. From use of scrip by Quarterly Staff $6.90 was collected.
*Newman Drug settled accounts for 40%

Physician
Hospital
Laboratory
Supplies

SURGICAL — SERVICE — STORE
THEO. TAFEL
—Jackson 4451—
319 3rd Street Louisville, Ky.

Braces
Trusses
Abdominal
Supporters

Wilderness Road Book Shop
Incorporated
MODERN BOOKS OF ALL KINDS
CIRCULATING LIBRARY
Brown Hotel Bldg. Phone: Jackson 5924
Louisville, Ky.

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delicious
sandwiches
•
HONEY-KRUST
Bread

DIRECTORY OF KENTUCKY STATE MEDICAL AUXILIARY

State

WOMAN'S AUXILIARY TO THE KENTUCKY STATE MEDICAL ASSOCIATION

1937-1938

NEXT MEETING, LOUISVILLE, 1938

Advisory Council

A. T. McCormack, M. D., Brown Hotel, Louisville
Virgil G. Kinnaird, M. D., Lancaster
V. A. Stilley, M. D., Benton

Officers

President—Mrs. Stephen C. McCoy, Preston Street Road, Louisville
President-Elect—Mrs. Harlan V. Usher, Sedalia
First Vice-President—Mrs. J. B. Lukins, 1280 Eastern Parkway, Louisville
Second Vice-President—Mrs. Caswell C. Turner, Glasgow
Third Vice-President—Mrs. John M. Blades, Butler
Fourth Vice-President—Mrs. Frank K. Sewell, Madisonville
Recording Secretary—Miss Grace Stroud, 424 East Lee Street, Louisville
Corresponding Secretary—Mrs. Chas. H. Moore, 782 Eastern Parkway, Louisville
Treasurer—Mrs. Luther Bach, 325 Taylor Blvd., Bellevue
Parliamentarian—Mrs. Chas. A. Menefee, 302 Earle Ave., Covington

Past President Members of Executive Board

Mrs. Joseph I. Greenwell, New Haven
Mrs. Luther Bach, 325 Taylor Avenue, Bellevue
Mrs. E. A. Barnes, Albany

Committee Chairmen

Archives—Miss Grace Stroud, 424 E. Lee St., Louisville
Cancer Study—Mrs. J. Duffy Hancock, 80 Valley Road, Louisville
Child Health and Welfare—
Doctor's Shop—Mrs. J. B. Lukins, 1280 Eastern Parkway, Louisville
Finance—Mrs. Emma Menefee, 2120 Glenway Avenue, Covington
Historical Collection—Mrs. Van A. Stilley, Benton
Hygeia—Mrs. Caswell C. Turner, Glasgow
Jane Todd Crawford Memorial—Mrs. Arthur T. McCormack, Brown Hotel, Louisville
J. N McCormack Memorial—Mrs. E. A. Barnes, Albany
Legislation—
Organization—Mrs. J. B. Lukins, 1280 Eastern Parkway, Louisville
Public Relations—
Radio—Mrs. G. A. Hendon 615 Brown Bldg., Louisville
Tuberculosis—Mrs. Lucius E. Smith, 439 Fairlawn Drive, Louisville

The Quarterly

Editor—Mrs. Arthur T. McCormack, Brown Hotel, Louisville
Business Manager—Mrs. Wm. H. Emrich, 842 S. Second Street, Louisville

County and District

BREATHITT COUNTY

Organized September 19, 1936, at Jackson. Fiscal Year, September 1 to August 31.

Advisory Council

J. S. Redwine, M. D.; M. E. Hoge, M. D.; Boyd Caudill, M. D. All of Jackson

Officers 1937-1938

President—Mrs. Jesse O. Van Meter, Jackson
Vice-President—Mrs. H. June Jett, Jackson
Secretary—Treasurer—Miss Helen Hogg, Jackson

Committee Chairmen

Archives—Mrs. Mervin Hoge
Cancer Control—Miss Irene Hoge
Child Health and Welfare—Mrs. Boyd Caudill
Doctor's Shop—Mrs. Robert C. Francis
Historical Collections—Mrs. Robert C. Francis
Hygeia—Mrs. Dora Swango
Jane Todd Crawford Memorial—Mrs. Hugh Needham
Program—Mrs. H. June Jett
Publicity—Mrs. Boyd Caudill
Public Relations—Mrs. Jessie Hogg
Tuberculosis—Miss Helen Hogg

Members

(All of Jackson)

Bach, Mrs. Madison
Caudill, Mrs. Boyd
Cox, Miss Brackye
Francis, Mrs. Robert C.
Hoge, Miss Helen
Hoge, Miss Irene
Hoge, Mrs. Mervin Eugene
Hogg, Mrs. Jessie
Hollon, Mrs. Stanley
Jett, Mrs. H. June
Needham, Mrs. Hugh
Freston, Miss Marium
Redwine, Mrs. John Smith
Redwine, Miss Mattie Lee
Sewell, Mrs. Frank Kash (Moved to Madisonville)
Sewell, Mrs. Price
Swango, Mrs. Overton H.
Tacket, Mrs. Ruby (Moved to Maysville)
VanMeter, Mrs. Jesse O.

CAMPBELL-KENTON COUNTIES

Organized January 31, 1930, at Covington. Regular meetings, first Thursday of each month. Annual meeting, April, 1937. Fiscal Year, February 1 to January 31.

Advisory Council

John E. Dawson, M. D., Newport; Charles A. Menefee, M. D., Covington; Wm. R. Miner, M. D., Fort Mitchell

Officers 1937-1938

President—Mrs. John Hadley Caldwell, 930 York Street, Newport
Vice-President—Mrs. Charles Atwood Menefee, 302 Earle Avenue, Covington
Secretary-Treasurer—Mrs. Henry Clay White, 3823 Decoursey Avenue, Covington

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Chairmen

Program—Mrs. Charles Baron, 209 West 34th Street, Covington

Members

Bach, Mrs. Luther, 325 Taylor Avenue, Bellevue
Baron, Mrs. Charles, 209 West 34th Street, Covington
Caldwell, Mrs. James Asher, 131 Electric Avenue, Newport
Caldwell, Mrs. John Hadley, 930 York Street, Newport
Dawson, Mrs. John, Newport
Daugherty, Mrs. Frank, Independence
Menefee, Mrs. Bartlett Kniffin, 2120 Glenway, Covington
Menefee, Mrs. Charles Atwood, 302 Earle Avenue, Covington
Morris, Mrs. Chester, Atherton, Park Hills, Covington
Petty, Mrs. Charles, Independence
Todd, Mrs. John, 6th and Park Avenue, Newport
White, Mrs. Henry Clay, 3823 Decoursey Avenue, Covington

Associate Members

Acree, Miss Lena, 404 Patton Street, Covington
Haley, Miss Pauline C., 7 Horsebranch Road, Fort Mitchell

FRANKLIN COUNTY

Reorganized, Thursday, April 23, 1936, at Frankfort. Irregular Meetings.

Officers 1937-1938

President—Mrs. James Darnell, 216 Conway St.
First Vice-President—Mrs. Charles Emmet Youmaus, 212 Steele St.
Second Vice-President, Mrs. Carlos Albert Fish, 305 E. Main St.
Third Vice-President—Mrs. F. Mace Travis, 732 Shelby St.
Recording Secretary—Mrs. Edward Kilgore Martin, 8 Rockland Court
Treasurer—Mrs. Winfrey Porter Blackburn, 101 Lafayette Dr.
Corresponding Secretary—Mrs. Reba Burrow Flynn, 617 Shelby St.

Active Members

(All of these are residents of Frankfort, Ky.)

Barr, Mrs. Joseph, Box 183, Frankfort
Barton, Mrs. R. D., 308 Steele St.
Benton, Miss Lena, 406 W. Fourth St.
Blackburn, Mrs. Winfrey Porter, 808 Shelby St.
Chinn, Miss Lucy, 201 W. Campbell St.
Coblin, Mrs. R. M., 115 Shelby St.
Coleman, Mrs. Clarence T., 422 Logan St.
Cull, Mrs. Leighton L., South Shelby St.
Darnell, Miss Dorothy, 216 Conway St.
Darnell, Mrs. James, 216 Conway St.
Darnell, Mrs. Matthew Cotton, 218 Conway St.
Demaree, Mrs. Owen B., 200 Washington St.
Fish, Mrs. Carlos Albert, 305 E. Main St.
Flynn, Mrs. Reba Burrow, 617 Shelby St.
Green, Mrs. Franklin Pierce, 412 Washington St.
Hankins, Mrs. C. B., 327 Steel St.
Heilman, Mrs. G. H., R. F. D., Frankfort
Henderson, Mrs. Verna, Woman's Exchange, St. Clair
Jackson, Mrs. Arley Martin, 517 Logan St.
Luttrell, Mrs. Mary C. Barr, Versailles Pike, R. F. D.
Marshall, Mrs. John, Louisville Road, R. F. D.
Martin, Mrs. Edward Kilgore, No. 8 Rockland Court
Minnish, Mrs. Lawrence T., 121 W. Fourth St.
Offutt, Mrs. Eleanor Hume, 218 Campbell St.
Patterson, Mrs. John, Wilkerson St.
Roemele, Mrs. Eugene Carl, 306 Shelby St.
Scott, Mrs. Murray E., 425 Logan St.
Smith, Miss Sara Wallace, 218 Capitol Ave.
Snyder, Mrs. Grace R., 300 McClure Bldg.
South, Mrs. John Glover, 505 Wapping St.
South, Mrs. Polk, Versailles Road
Stewart, Mrs. Dowling, Lawrenceburg Pike, R. F. D.
Stewart, Mrs. John Fugh, Stewart Home, R. F. D.
Travis, Miss Helen, 732 Shelby St.
Youmens, Mrs. Charles Emmet, 205 Steele St.
Ward, Mrs. Willie, Louisville Road, R. F. D.

GRAVES COUNTY

Reorganized August 20, 1931, at Mayfield. Irregular meetings. Annual Meeting, August 5, 1937. Fiscal Year, September 1st to August 1st.

Advisory Council

Herbert Hobson Hunt, M. D., Mayfield; Will Joseph Shelton, M. D., Mayfield; William Ernest Merritt, M. D., Fancy Farm.

Officers 1937-1938

President—Mrs. Robert Grady Ashley, Mayfield
Vice-President—Mrs. Moza West Hurt, Mayfield
Secretary-Treasurer—Mrs. Will Joseph Shelton, Mayfield

Committee Chairmen

Hygeia—Mrs. John Henry Shelton, Mayfield
Jane Todd Crawford—Mrs. John Lynch Dismukes, Mayfield
Public Relations—Mrs. Harlan Vernon Usher, Sedalia
Tuberculosis—Mrs. John Ray Pryor, Mayfield

Active Members

Ashley, Mrs. Robert Grady, Mayfield
Colley, Mrs. Lube Gerard, Farmington
Dismukes, Mrs. John Lynch, Mayfield
Fuller, Mrs. George Terrell, Mayfield
Hargrove, Mrs. Wilbur Samantha, Hickory
Hunt, Mrs. Herbert Hobson, Mayfield
Hurt, Mrs. Moza West, Mayfield
Mayer, Mrs. Jacob, M., Mayfield
Merritt, Mrs. William Ernest, Fancy Farm
Fryor, Mrs. John Ray, Mayfield
Shelton, Mrs. John Henry, Mayfield
Shelton, Mrs. Will Joseph, Mayfield
Usher, Mrs. Harlan Vernon, Sedalia
Vaughan, Mrs. William Thomas, Mayfield
Walters, Mrs. Earl Charles, Mayfield

HARDIN COUNTY

Reorganized April 12, 1935, at Brown-Pusey Home, Elizabethtown. Irregular meetings. An-

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Advisory Council

(All of Elizabethtown)

Garnett Bale, M. D.; George Bradley, M. D.; R. T. Layman, M. D.

Officers

President—Mrs. Garnett Bale
Vice-President—Mrs. Reason T. Layman
Secretary—Mrs. William R. Bethel
Treasurer—Mrs. John Irwin Taylor

Chairmen

Cancer Control—Mrs. Emmitt Morgan
Health Education—Mrs. John M. English
Jane Todd Crawford—Mrs. George W. Woodard
Publicity—Mrs. Reason T. Layman
Tuberculosis—Miss Eliza Lancaster

(All of Elizabethtown unless otherwise stated)

Honorary Members

Lancaster, Mrs. John A.
Pusey, Mrs. William A., Chicago and Elizabethtown

Active Members

Bale, Mrs. Garnett
Bale, Mrs. Shelby P.
Bethel, Mrs. William R.
English, Mrs. John M.
Lancaster, Miss Eliza
Taylor, Mrs. John Irwin
Layman, Mrs. Reason T.
Long, Mrs. Charles Fount
Morgan, Mrs. Emmitt
Nusz, Mrs. Herbert R., Cecilia

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Fowler, Mrs. Joseph M.
Woodard, Mrs. George W.

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JEFFERSON COUNTY

Organized September 18, 1926 at Louisville. Regular meetings: Business luncheon meetings held quarterly, first Monday of March, June, September, December. Study Class meets at 11:00 A. M., first Monday each month from October through April. Sewing Unit meets at 10:00 A. M., second Tuesday of each month in all day session. Golf Unit, in conjunction with the Falls City Golf Association, meets in turn, at the various private and Municipal Courses, on the first and third Tuesdays of the month from April through October. Election of Officers, at December quarterly meeting with Installation at June quarterly meeting, which is the Annual Meeting, when Annual Reports are made. Fiscal Year, January 1 to December 31.

Advisory Committee

(All of Louisville)

Stephen C. McCoy, M. D.; Oscar O. Miller, M. D.

Officers 1936-1937

(All of Louisville)

President—Mrs. Curt H. Krieger, 2000 Grasmere Drive
First Vice-President—Mrs. John Paul Keith, 2206 Blvd. Napoleon
Second Vice-President—Mrs. George Clinton Leachman, 1820 Casselberry Road
Third Vice-President, Mrs. Lamar Wm. Neblett, 2406 Glenmary
Fourth Vice-President, Mrs. Harry W. Venable, 2108 Strathmoor Blvd.

Advisory Council

Mrs. Phillip Earl Blackerby, 559 Sunnyside Dr.
Mrs. William Edgar Fallis, 2046 Sherwood
Mrs. John King Freeman, 2104 West Broadway
Mrs. James Duffy Hancock, 80 Valley Road
Mrs. James S. Lutz, 4349 Park Blvd.
Mrs. Stephen Clifford McCoy, Preston Street Road
Mrs. Oscar Oswald Miller, 2321 Alta Avenue

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Committee Chairmen

Archives—Mrs. Henry Arch Herzer, 2105 Rutherford
Better Films—Mrs. Calvin Garnett Arnold, 3210 Wren Road
Doctor's Shop—Mrs. Joshua Bell Lukins, 1280 Eastern Pkwy.
Fruit and Flower Guild—Mrs. Wm. Edgar Fallis, 2046 Sherwood Avenue
Golf—Mrs. Judson Powell Boulware, 72 Valley Road
Historical Collection—Mrs. John King Freeman, 2104 West Broadway
Hospital and Welfare—Mrs. Joseph Carr Ray, 318 Fairlawn
Hygeia—Mrs. Melvion H. Mathewsian, 4026 S. Third St.
Jane Todd Crawford—Mrs. George Albert Hendon, 615 Brown Building
Luncheon and Decorations—Mrs. Bernard Asman, 2200 Boulevard Napoleon
Mayor's Committee—Mrs. Stephen Clifford McCoy, Preston St. Road
Membership—Mrs. Oliver Patterson Miller, 1421 Tyler Parkway
Music and Entertainment—Mrs. Louis Ringol, 2059 Alta Avenue
Public Relations—Mrs. Arthur Thomas McCormack, Brown Hotel
Publicity—Mrs. Robert F. Monroe, 116 W. Avery
Radio—Mrs. Carlisle Morse, 3820 Frankfort Avenue
Sewing Unit—Mrs. John M. Keaney, 1600 Eastern Pkwy.
Study Class—Miss Grace Stroud, 424 E. Lee Street.
Telephone—Mrs. F. Parks Ogden, 4454 S. Sixth Street
Tuberculosis—Mrs. Joseph F. Dusch, 4523 Western Pkwy.

Honorary Members

Miss Louise Morel, 2051 Sherwood Avenue
Granville Scott Hanes, M. D., Brown Hotel

Active Members

Abell, Mrs. Irvin, 1433 South Third St.,
Ackerson, Mrs. Major M., 2021 Lakeside Drive,
Adams, Mrs. Roscoe Conklin, 2044 Alta Avenue,
Allen, Mrs. Ellis Saunders, 2549 Glenmary,
Arnold, Mrs. Calvin Garnett, 3210 Wren Road,
Asman, Mrs. Bernard, 2200 Napoleon Blvd.,
Baker, Mrs. Melvin Clinton, 208 S. Galt
Blackerby, Mrs. Philip Earl, 559 Sunnyside Drive,
Boulware, Mrs. Judson Powell, 72 Valley Road,
Brownstein, Mrs. Samuel Joseph, 2059 Alta Ave.
Carter, Mrs. Wible Stewart, 2127 Woodford Place,
Cissell, Mrs. Joseph Kelvey, 819 Sutcliff Ave.,
Clem, Mrs. John Grigsby, 1435 Willow Avenue,
Crice, Mrs. Thos. J., 1320 Cherokee Road,
Davidson, Mrs. Harry Adolf, 1601 Windsor Place,
Dorsey, Mrs. Thos. Manning, 200 W. Chestnut Street,
Dougherty, Mrs. Frank J., 1430 Goddard Avenue,
Doughty, Mrs. Richard Eugene, 4402 Southern Pkwy.,
Dugan, Mrs. Wm. Clark. Finchville, Ky., R. F. D. No. 1
Durrett, Mrs. L. P., 118 E. Ormsby,
Dusch, Mrs. Joseph F., 4523 Western Pkwy.
Dyer, Mrs. Garland Lambeth, Buechel, Ky.
Emrich, Mrs. Wm. Henry, 842 S. Second,
Fallis, Mrs. Wm. Edgar, 2046 Sherwood,
Fenner, Mrs. J., 309 N. Western Pkwy.,
Ferguson, Mrs. John Preston, 4242 River Park Drive,
Fitch, Mrs. Josiah W., 1800 S. Second,
Fitzpatrick, Mrs. Joseph W., 2327 Bonnycastle Ave.,
Fitzpatrick, Miss Viola, 2327 Bonnycastle Ave.,
Fix, Mrs. Carroll Clinton, 3617 W. Broadway,
Freeman, Mrs. John King, 2104 W. Broadway,
Gardner, Mrs. Wm. Emmet, 1405 Rosewood Avenue,
Goodman, Mrs. Arthur Ouchterlony, 1910 S. Third Street
Hackett, Mrs. Louis Joseph, 2511 Napoleon Blvd.,
Hall, Mrs. D. P., 2023 Tyler Lane
Hancock, Mrs. James Duffy, 80 Valley Road,
Hancock, Miss Johanna Bertha, 80 Valley Road,
Heflin, Mrs. Ernest Lee, 2611 Top Hill Road,
Henderson, Mrs. Elmer Lee, 87 Valley Road,
Hendon, Mrs. George Albert, 615 Brown Bldg.,
Herrman, Mrs. Henry Christian, 4011 W. Broadway,
Herzer, Mrs. Henry Arch, 2105 Rutherford,
Hoffman, Mrs. Claude Graham, 2050 Eastern Pkwy.,
Hudson, Mrs. Richard Taylor, 322 Stilz,
Hulskamp, Miss Clara C., 546 W. St. Catherine,
Hume, Mrs. Walter Irvine, 2218 Village Drive
Jefferson, Mrs. Chas. W., 2424 Longest
Keaney, Mrs. John M., 1600 Eastern Pkwy.
Keith, Mrs. David Yandell, 40 Hill Road
Keith, Mrs. John Paul, 2206 Napoleon Blvd.,
Kelley, Mrs. Brown Wilson, 4538 S. Sixth Street,
Kelsall, Mrs. Oliver Holt, 4704 Southern Pkwy.,
Koch, Mrs. Ernest H., 3800 W. Broadway,
Krieger, Mrs. Curt H., 2000 Grasmere Drive,
Langolf, Mrs. Louise, 643 E. Oak Street,
Leachman, Mrs. George Clinton, 1820 Casselberry Road,
Leavell, Mrs. Hugh Nelson, 1479 S. Fourth Street,
Leggett, Mrs. Albert Earl, 2308 Village Drive,
Leigh, Mrs. Armistead Macon, 2416 Frankfort Avenue,
Lukins, Mrs. Joshua Bell, 1280 Eastern Pkwy.,
Lucas, Mrs. Chas. George, Owens-Hill Apt.,
Lutz, Mrs. James Sharp, 4349 Park Blvd.,
Lynch, Mrs. Thos. Ignatius, 2236 Osage,
McConnell, Mrs. William Thomas, 2739 Virginia,
McCormack, Mrs. Arthur Thomas, Brown Hotel,
McKenney, Mrs. Elbert B., 4501 Southern Pkwy.,
McCoy, Mrs. Stephen Clifford, Preston Street Road.
McNally, Mrs. Allan, 269 Pennsylvania Ave.,
Mathewsian, Mrs. Melvion H., 4026 S. Third Street,
Miller, Mrs. Harold Faulkner, 4458 Park Blvd.,
Miller, Mrs. Oliver Patterson, 1431 Tyler Park Drive,
Miller, Mrs. Oscar O., 2321 Alta Ave.
Moore, Mrs. Chas. Hudson, 782 Eastern Pkwy.,
Moore, Mrs. John Walker, Blankenbaker Lane,
Nicholson, Mrs. Wm. Woodward, 1708 Harvard Drive,
Ogden, Mrs. F. Parks, 4454 S. Sixth Street,
Overstreet, Mrs. Sam Alvin, 2521 Taylorsville Road,
Owen, Mrs. William Barnett, 1257 Cherokee Road,
Palmer, Mrs. Edward R., Puritan Apts.,
Price, Mrs. John Williamson, Jr., Upper River Road, R. F. D. No. 1, Box 450, Louisville
Ray, Mrs. Joseph Carr, 313 Fairlawn Road,
Reesor, Mrs. Otter Robinson, 2303 Village Drive,
Reising, Mrs. Kenneth, 4145 W. Broadway,
Ritter, Mrs. Harry Nichols, 1611 Windsor Place.
Rogers, Mrs. John Clayton, 1479 S. Fourth Street,
Rulander, Mrs. Frederick Wm., 920 Baxter Ave.,
Sandidge, Mrs. Prescott, 1334 Cherokee Road,
Sauter, Miss Elizabeth, 1801 Edenside Drive,
Shacklette, Mrs. J. R., Jeffersontown, Ky.
Shiftlett, Mrs. See, 2381 Hawthorne Avenue,
Smith, Mrs. Lucien Lyne, 208 Pleasant View,
Smith, Mrs. Lucius Ernest, 439 Fairlawn Road,
Solomon, Mrs. Leon L., 2327 Carolina Avenue,
Speidel, Mrs. Edw., 2014 Cherokee Pkwy.,
Stokes, Mrs. Edgar William, 923 Cherokee Road
Stroud, Miss Grace, 424 E. Lee Street,
Sullivan, Miss Mayme, 532 W. Main Street,
Tracy, Mrs. Edward Joseph, 444 E. Oak Street,
Tuley, Mrs. Henry Enos, 5 Eastview Ct.
Venable, Mrs. Harry W., 2108 Strathmoor Blvd.,
Victor, Mrs. Karl Norris, 2140 Bonnycastle Ave.,
Wier, Mrs. Joseph, 1614 Chichester
White, Mrs. Wm. Clayborne, 408 W. Ormsby,
Wood, Mrs. C. F., 1453 S. Third Street,

LICKING VALLEY DISTRICT

(10 Counties)

Organized Thursday, June 10, 1937, at Williamstown, by Mrs. Luther Bach. Regular meetings, quarterly, the second Thursday of March, June, September, December. Annual

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LOUISVILLE, KY.

Meeting, June 1938. Fiscal Year, July 1st to June 30th.

Advisory Council

C. F. Haley, M. D., Brooksville; John M. Blades, M. D., Butler; Luther Bach, M. D., Bellevue

Officers 1937-1938

President—Mrs. John M. Blades, Butler
Vice-President—Mrs. K. L. Stratton, Alexandria
Secretary-Treasurer—Mrs. Clarence Foster Haley, Brooksville

County Chairmen

Boone—Mrs. S. F. Nunnelly, Burlington
Bracken—Mrs. Will Wallin, Brooksville
Campbell—Mrs. James Asher Caldwell, 131 Electric Avenue Southgate
Fleming—Mrs. Albert Graham, Flemingsburg
Grant—Mrs. Charles M., Williamstown
Harrison—Mrs. H. I. Smiser, Cynthiana
Kenton—Mrs. Henry Clay White, 3826 DeCoursey Avenue, Covington
Mason—Mrs. B. Taylor, Maysville
Nicholas—Mrs. B. F. Reynolds, Carlisle
Pendleton—Mrs. N. C. Comer, Falmouth

Active Members

Abernathy, Mrs. John William
Bach, Mrs. Luther, 325 Taylor Blvd., Bellevue
Blades, Mrs. John M., Butler
Brown, Mrs. O. W., R. F. D., Falmouth
Caldwell, Mrs. James Asher, 131 Electric Avenue, Southgate
Comer, Mrs. N. C., Falsmouth
Dawson, Mrs. J. E., 77 Taylor Avenue, Fort Thomas
Eckler, Mrs. Charles M., Williamstown
Ellis, Mrs. Nicholas Henry, Williamstown
Faulkner, Mrs. 300 Fairfield Avenue, Bellevue
Haley, Mrs. Clarence Foster, Brooksville
Kinsey, Mrs. Russell Edward, Williamstown
Marquette, Mrs. C. A., Augusta
Menefee, Mrs. Bartlett Kniffin, 2120 Glenway, Covington
Menefee, Mrs. Charles Atwood, 302 Earle Avenue, Covington
Marshall, Mrs. John James, Crittenden
Nunnelly, Mrs. Sam, Burlington
Pinguely, Mrs. Julius E., Melbourne
Price, Mrs. J. L., Williamstown
Reynolds, Mrs. B. F., Carlisle
Smith, Mrs. L. E., 3712 Park Avenue, Covington
Stratton, Mrs. K. L., Alexandria
White, Mrs. Henry Clay, 3826 DeCoursey Avenue, Covington

Associate Members

Haley, Miss Pauline Catherine, 7 Horse Branch Road, Fort Mitchell

McCRACKEN COUNTY

Re-organized March 23, Paducah. Regular meetings, first Tuesday in month. (Schedule disrupted by Flood.) Annual Meeting, 1938. Fiscal Year.

Advisory Council

(All of Paducah)

H. G. Reynolds, M. D.; E. W. Jackson, M. D.; J. B. Acree, M. D.; Warren Sights, M. D.

Officers 1937

(All of Paducah)

President—Mrs. Joe Brown Acree, 2316 Broadway
First Vice-President—Mrs. Allen Shemwell, Buckner Lane
Second Vice-President—Mrs. Claude Everitt Kidd, 3220 Jefferson
Secretary—Mrs. Harry Davis Abell, 229 Harahan Blvd.
Treasurer—Mrs. William V. Eaton, Jr., Rhodes Apts.
Corresponding Secretary—Mrs. Jacob Nathaniel Bailey, Buckner Lane

Active Members

Abell, Mrs. Harry Davis, 229 Harahan Blvd.
Acree, Mrs. Joe Brown, 2316 Broadway
Bailey, Mrs. Jacob Nathaniel, Buckner Lane
Eaton, Mrs. William V., Rhodes Apts.
Froage, Mrs. George Barton, 302 North Seventh Street
Gore, Mrs. Randolf C., Lone Oak, Kentucky
Jackson, Mrs. Elbert William, 319 Fountain Avenue
Kidd, Mrs. Claude Everitt, 3220 Jefferson
Marshall, Mrs. Thomas Juett, 110 Fountain Avenue
Overby, Mrs. Bob C., 1722 Jefferson Street
Pace, Mrs. Vernon, 203 Sycamore Drive
Rosenberg, Mrs. Theodore, 2116 Broadway
Shemwell, Mrs. Allen, Buckner Lane
Young, Mrs. Lewis Edwin, Lone Oak, Kentucky

MADISON COUNTY

Re-organized, July, 1937, at Berea.

Officers 1936-1937

President—Mrs. Robert H. Cowley, Berea
Vice-President—Mrs. Alson Baker, Berea
Secretary—Mrs. John B. Floyd, Richmond
Treasurer—Mrs. R. M. Phelps, Richmond

Active Members

Amon, Mrs. J. A., Berea
Arbuckle, Mrs. I. A., Richmond
Armstrong, Mrs. J. W., Berea
Baker, Mrs. Alson, Berea
Baker, Mrs. John, Berea
Bales, Miss Kathleen, Richmond
Bartlett, Mrs. R. E., Berea
Bosley, Mrs. J. G., Richmond
Carr, Mrs. Shelby, Richmond
Coleman, Mrs. L. C., Richmond
Cornelius, Mrs. A. F., Berea
Cornelius, Miss Grace, Berea
Cowley, Mrs. R. H., Berea
Davis, Mrs. L. A., Berea
Dunn, Mrs. Murison, Richmond
Farris, Mrs. J. D., Richmond
Floyd, Mrs. John B., Richmond
Gibson, Mrs. Bert H., Richmond
Hill, Mrs. J. W., Richmond
Hughes, Mrs. H. A., Richmond
Hume, Mrs. O. F., Richmond
Jasper, Mrs. H. C., Richmond
Lewis, Mrs. Wm. G., Berea
Mahaffey, Mrs. H. C., Richmond
Mahaffey, Mrs. Hugh, Richmond
Marcum, Mrs. C. R., Berea
Phelps, Mrs. R. May, Richmond
Pope, Mrs. H. C., Kirksville
Poyntz, Miss Kathleen, Richmond
Reynolds, Mrs. Richard, Berea
Rutledge, Mrs. J. H., Richmond
Smith, Mrs. F. H., Paint Lick
Smoot, Mrs. C. E., Richmond
Sory, Mrs. Robert, Richmond
Wells, Mrs. H., Richmond

MARSHALL COUNTY

Organized September 7th, 1936 at Benton. Regular meetings, third Friday evening each month. (Schedule disrupted by Flood). Annual Meeting, March. Fiscal Year, September 1st to August 31st.

Advisory Council

L. L. Washburn, M. D., Benton; V. A. Stilley, M. D., Benton; W. T. Little, M. D., Calvert City

Officers 1936-1937

President—Mrs William Speer Stone, Benton
Vice-President—Mrs. Samuel LaFayette Henson, Benton
Secretary-Treasurer—Mrs. Van Albert Stilley, Benton

Committee Chairmen

Jane Todd Crawford—Mrs. Wm. T. Little, Calvert City

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Active Members

Eddleman, Mrs. Owen Albert, R. F. D. No. 6, Benton
Henson, Mrs. Samuel LaFayette, Benton
Little, Mrs. William Thomas, Calvert City
Stilley, Mrs. Van Albert, Benton
Stone, Mrs. William Speer, Benton
Washburn, Mrs. Lawrence Lee, Benton

NELSON COUNTY

Organized October 14, 1931 at Bardstown. Quarterly Meetings. Annual Meeting, January, 1938. Fiscal Year, January 1 to December 31.

Advisory Council

R. H. Greenwell, M. D., Bardstown; E. D. Mudd, M. D., New Haven; A. D. Steely, M. D., Bardstown

Officers 1937

President—Mrs. J. I. Greenwell, .New Haven
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Secretary-Treasurer—Mrs. C. B. Elston, Bardstown

Committee Chairmen

Archives—Mrs. J. I. Greenwell. New Haven
Cancer Control—Mrs. C. B. Elston, Bardstown
Jane Todd Crawford—Mrs. R. H. Greenwell, Bardstown

Honorary Members

Mrs. Laura Beckwith Summers, Bardstown

Active Members

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Greenwell, Mrs. Joseph Ignatius, New Haven
Greenwell, Miss Martha, New Haven
Greenwell, Mrs. Richard Henry, Bardstown
Mudd, Mrs. Edward Denotas, New Haven
Roby, Mrs. William J., Bardstown
Steely, Mrs. Arthur Dillman, Bardstown

SAMSON COMMUNITY HOSPITAL AUXILIARY

Organized June 5, 1934 at Glasgow. Regular meetings, second Tuesday of each month. Annual Meeting June. Fiscal Year, June 1 to May 31.

Advisory Council

Caswell C. Turner, M. D., Glasgow; Edmond D. Turner, M. D., Cave City; William A. Weldon, M. D., Glasgow.

Officers 1937-1938

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Vice-President—Mrs. Paul S. York
Secretary-Treasurer—Mrs. James W. York.

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Doctor's Shop—Mrs. Ella Dixon
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Hygeia—Mrs. William A. Weldon
Pnblicity—Mrs. Caswell C. Turner

Active Members

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Boles, Mrs. Fielding J., Glasgow
Bushong, Mrs. Geo. Eagle, Tompkinsville
Chapman, Mrs. Wallace M., Glasgow
Depp, Mrs. Candor G., Hiseville
Dunkelburger, Miss Florence, Glasgow
Dixon, Mrs. James A., Glasgow
Howard, Mrs. Carl Clifford, Glasgow
Palmore, Mrs. Cecil E., Horse Cave
Ray, Mrs. Herschell B., Tompkinsville
Turner, Mrs. Caswell C., Glasgow
Turner, Mrs. Edmond D., Cave City
Richards, Mrs. Clifton, Glasgow
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Hafer, Mrs. L. C., Covington
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Martin, Mrs. William M., Louellen
Morton, Mrs. C. R., 245 West Broadway, Madisonville
Vance, Mrs. Charles, Lexington

NATIONAL HOSPITAL DAY IN GLASGOW

Mrs. C. C. Howard, Glasgow.

National Hospital Day, May 12th, 1937, was observed at Samson Community Hospital, Glasgow. The public was invited by our efficient and pleasing superintendent, Miss Marian V. Black, to visit and inspect the hospital. Former patients were urged to be present and all babies born in the institution received an invitation to attend a party given especially for them. Refreshments were served and a toy or balloon given to each child.

A unique feature connected with the party for the babies happened on the night before when Dr. Rex Hayes answered a "rush call." He returned to the hospital in a short time bringing three colored babies. Triplets! They have been the source of much interest and many visitors journeyed there for the sake of seeing the Triplets. They are now (May 25, 1937), two weeks old and thriving nicely.

The day was fittingly closed by an open meeting of the Hospital Medical Staff. Auxiliary Members and a representative group of visiting laymen attended this meeting held in the parlors of the Norris Nurses Home.

(To Be Continued)

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WOMAN'S AUXILIARY TO THE SOUTHERN MEDICAL ASSOCIATION

NEXT MEETING: NEW ORLEANS, LOUISIANA, NOVEMBER 30-DECEMBER 3, 1937

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Dr. Howard R. Dudgeon, Waco, Texas

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First Vice-President—Mrs. W. K. West, 233 N. W. 33rd St., Oklahoma City, Okla.
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Parliamentarian—Mrs. Olin S. Cofer, 948 Lullwater Road, N. W., Atlanta, Ga.

Chairmen of Standing Committees

Budget—Mrs. J. Buren Sidbury, 15 North 15th St., Wilmington, N. C.
Custodian of Records—Mrs. A. T. McCormack, Brown Hotel, Louisville, Ky.
Jane Todd Crawford—Mrs. T. R. W. Wilson, Poinsett Hotel, Greenville, S. C.
Memorial—Mrs. H. B. Gessner, 119 Audubon Blvd., New Orleans, La.
Research—Mrs. S. A. Collom, Sr., 621 Main St., Texarkana, Texas
Resolutions—Mrs. Eugene C. Peak, Ocala, Fla.

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(All are Members of the Executive Board)

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ANNUAL MEETING, SAN FRANCISCO, JUNE, 1938

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Mrs. Fletcher J. Wright, 49 South Market Street, Petersburg, Virginia

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Public Relations—Mrs. Frederic E. Elliott, 122 Seventy-sixth Street, Brooklyn, New York
Revisions—Mrs. James F. Percy, 1030 South Alvarado Street, Los Angeles, California
Historian—Mrs. Gordon H. Ira, 1336 Challen Avenue, Jacksonville, Florida
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The Jane Todd Crawford Memorial

FROM THE SOUTHERN

The newest publication on Jane Todd Crawford comes from the Southern Medical Auxiliary. It is an attractive small booklet entitled, Jane Todd Crawford, 1763-1842. It gives a brief sketch of her life and suggested plans for memorializing her contribution to surgery.

Mrs. T. R. W. Wilson, Chairman of Jane Todd Crawford Memorial Research is the author. Space does not permit more quotation than the few paragraphs giving the Plans for use by the Auxiliaries of the Southern States which follow.

"First, if your State is now contributing funds to a fitting memorial of Jane Todd Crawford, continue through your unit treasurer to send funds to your State Treasurer:

Second, if you do not make contributions to the Memorial Fund, begin, NOW, to show your enthusiasm by contributing ten cents ($0.10) for each member of the Auxiliary THIS year.

Third, your State may be contributing to a 'Student Loan Fund.' Could you not change this Fund to the Jane Todd Crawford Memorial Fund?

Fourth, if you are able, financially, to carry on a Student Loan Fund, do not combine the two, but start a separate memorial—the Jane Todd Crawford Memorial Fund.

Fifth, support a hospital bed for indigent women known as 'Jane Todd Crawford Memorial Bed.' "

OUR BUSINESS

Mrs. Wm. H. Emrich, Business Manager

Many of our Auxiliary members, no doubt, enjoyed a pleasant, restful vacation and have come home filled with new ideas, new life and vigor, ready to perform tasks now which earlier may have seemed impossible. A few weeks respite from the daily grind, a change of activity and scene may have given them a different perspective. This new perspective may suggest changes in their work at home or in society. Why not make this metamorphosis an asset to the Quarterly? The Business Manager will gladly welcome any suggestions, any constructive criticism or helpful advice our women have to offer for financing the Woman's Auxiliary Section of the Kentucky Medical Journal.

Many of our Advertisers, too, will have returned to their businesses rested in mind and body ready to tackle their jobs with fresh vigor. They, too, may have suggestions or plans to offer which will stimulate a greater return on their advertising investment in our publication. We earnestly await their pleasure. Without our faithful Advertisers, it would be a long hard pull to our Goal—financing the Quarterly of 1938. In closing this sixth volume of our Kentucky Medical Journal—Part II—Woman's Auxiliary Section, we can ever thank our Advertisers for whatever success we have attained; with pleasure we anticipate their cooperation in the coming year.

Cancer Control

Mrs. J. Duffy Hancock, Louisville, Chairman.

THE TEN GOLDEN RULES

The ten golden rules of the cancer examination suggested by the Women's Field Army, American Society for the Control of Cancer, make no exceptions—not even of doctors' wives. Here they are:

1. Examine the lips, tongue, cheek, tonsils and pharnyx for persistent ulcerations; the larynx for hoarseness, and the lungs for persistent cough.
2. Examine the skin of the face, body and extremities for scaly bleeding warts, black moles and unhealed scars.
3. Examine every woman's breasts for lumps or bleeding nipple.
4. Examine the subcutaneous tissues for lumps of the arms, legs and body.
5. Investigate any symptoms of persistent indigestion or difficulty in swallowing. Palpate abdomen.
6. Examine the lymph node system for enlargement of the nodes of the neck, groin, or arm pit.
7. Examine the uterus for enlargement, lacerations, bleeding or new growths.
8. Examine the rectum and determine the cause of any bleeding or pain.
9. Examine the urine microscopically for the presence of blood.
10. Examine the bones, and take a radiograph of any bone which is the seat of a boring pain, worse at night.

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PROCEEDINGS OF THE FIFTEENTH ANNUAL MEETING OF THE WOMAN'S AUXILIARY TO THE KENTUCKY STATE MEDICAL ASSOCIATION HELD AT RICHMOND, KENTUCKY, SEPTEMBER 13-16, 1937.

The Fifteenth Annual Meeting of the Woman's Auxiliary to the Kentucky State Medical Association opened with Registration, at 9:00 a. m., Monday, September 13, 1937, at the Library, Eastern State Teachers College, Richmond, Kentucky.

Study Class

At 2:00 p. m., Monday, the Study Class was held in the Library, Mrs. H. V. Usher, Sedalia, presiding. 21 were present.

Three addresses were given and open discussion followed each subject. Mrs. E. H. Heller, Louisville, Commander of the Kentucky Unit of the Woman's Field Army of the American Society for the Control of Cancer, was introduced and described the aims and procedure of The Woman's Field Army. Dr. J. Duffy Hancock, Louisville, Chairman of the Cancer Committee for the Kentucky State Medical Association, gave an inspiring address on the Progress of Cancer Education in Kentucky. Mrs. Luther Bach, Bellevue, read the paper, entitled, Public Enemy Number One, prepared by Mrs. Charles Baron, Latonia, unfortunately detained at home by illness. This paper was followed by a description by Mrs. Usher, of the Venereal Disease Control Campaign conducted in Graves County, with particular emphasis on the work in the High Schools. The fourth number on the program, a paper on Venereal Diseases by Dr. E. A. Barnes, Albany, was necessarily postponed because Dr. Barnes was detained at home by a very sick patient.

With an invitation to a Get-Acquainted Tea given at the Richmond Country Club by the Madison County Auxiliary, at 4:00 P. M., the group adjourned to an adjoining room for the Pre-Convention Board Meeting.

Minutes of the Pre-Convention Board Meeting

The Annual Pre-Convention Board Meeting of the Woman's Auxiliary to the Kentucky State Medical Association was held in the Library, Eastern State Teachers College, Richmond, Kentucky, at 3:45 P. M., Monday, September 13, 1937, with Mrs. Ernest Arthur Barnes, the President, of Albany, presiding. A quorum was present. (16 seated.)

The Invocation was offered by Mrs. B. K. Menefee, Covington.

A motion carried that the reading of the Minutes of the Post-Convention Board Meeting of the Fourteenth Annual Meeting, held in Paducah, October 7, 1936, be dispensed with as these Minutes had been published in the Woman's Auxiliary Section of the Kentucky Medical Journal for January, 1937.

Roll call was answered by 13 members.

The Nominating Committee was elected as follows:

Mrs. Luther Bach, Bellevue, Campbell County, Chairman.

Mrs. B. K. Menefee, Covington, Kenton County.

Mrs. Frank Sewell, Jackson, Breathitt County.

Mrs. Charles F. Long, Elizabethtown, Hardin County.

Mrs. H. T. Morris, Greenup, Greenup County, Member, State-At-Large.

The Resolutions Committee was appointed by the President with Mrs. J. B. Lukins, Louisville, as Chairman. Other members were: Mrs. C. C. Turner, Glasgow, and Mrs. C. A. Menefee, Covington.

Several Committee Reports were given in brief.

The Chairman of the Jane Todd Crawford Memorial Committee, Mrs. A. T. McCormack, Louisville, presented developing plans for the work of this Committee. Following considerable discussion, a motion for the approval of the Board for a beautification program for the Jane Todd Crawford Trail was made by Mrs. McCormack, seconded by Mrs. V. A. Stilley, Benton. Carried.

A motion by Mrs. McCormack, seconded by Mrs. J. I. Greenwell, New Haven, that the Board approve the Auxiliary endeavor to complete its pledged One Thousand Dollar contribution to the Jane Todd Crawford Memorial Fund of the Southern Medical Auxiliary this coming year and present it to the Southern Medical Auxiliary upon the retirement of Mrs. Luther Bach as President at the Annual Meeting in 1938: Carried.

A request was transmitted from the Business Manager of the Woman's Auxiliary Section of the Kentucky Medical Journal, Mrs. Wm. H. Emrich, Louisville, for suggestions for financing the publication. After due consideration, a motion was made by Mrs. H. V. Usher, Sedalia, seconded by Mrs. C. C. Turner, Glasgow, that a letter be sent to each member of the Kentucky State Medical Association presenting these financial needs and asking for a donation, of at least One Dollar, for the sup-

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port of this Quarterly Supplement to the Kentucky Medical Journal during 1938. Carried.

Adjourned, 4:30 P. M.

(Signed) GRACE STROUD,
Recording Secretary, Pro Tem.

Tea

The Madison County Auxiliary entertained with a delightful Get-Acquainted Tea for visiting Auxiliary Members at the Richmond Country Club at 4:00 P. M. on Monday, September 13, 1937.

President's Report to Kentucky State Medical Association

The President, Mrs. Ernest Arthur Barnes, appeared before the House of Delegates in Annual Session at the Old Auditorium, Eastern State Teachers College, Richmond, on Monday, September 13, 1937, at 8:00 P. M., and presented her report of the work of the Auxiliary for the past year. Following this report, the President made an appeal for the support of the Joseph Nathaniel McCormack Memorial.

See Report, House of Delegates, Kentucky Medical Journal, December, 1937.

Joint Session

Tuesday, September 14, at 9:00 A. M., in the Hiram Brock Auditorium, Richmond, the Woman's Auxiliary met jointly with the Kentucky State Medical Association for the Installation Ceremony of the President, Dr. Horace Gilbert Reynolds, Paducah.

MINUTES OF THE ANNUAL MEETING

First Session

The General Business Meeting of the Fifteenth Annual Meeting of the Woman's Auxiliary to the Kentucky State Medical Association was called to order in Richmond at the Library, Eastern State Teachers College, at 9:50 A. M., Tuesday, September 14, 1937, by the President, Mrs. Ernest Arthur Barnes, Albany. A quorum was present. (40 Members were seated at the opening of the session.)

The singing of America was led by Mrs. Robert Sory, Richmond.

The Invocation was offered by Reverend Frank N. Tinder, Pastor of the First Christian Church, Richmond.

The Address of Welcome was given by Acting Governor Keen S. Johnson.

The Response was made by Mrs. B. K. Menefee, Covington.

Mrs. E. H. Heller, Louisville, Commander of the Kentucky Unit of the Woman's Field Army of the American Society for the Control of Cancer, was introduced and made an appeal for volunteer workers in the 1937-1938 campaign against cancer.

Greetings and Messages from the Kentucky State Medical Association were brought by J. D. Northcutt, M. D., Covington, Retiring President, and by H. G. Reynolds, M. D., Paducah, newly installed President. A request was made by the President that the Auxiliary assist in the education of the public in the prevention of blindness.

Roll Call showed 7 Officers, 9 Committee Chairmen, 3 County Presidents and 15 Delegates present.

The Report of the Committee On Arrangements was made by Mrs. O. F. Hume, Richmond.

The Report of the Committee On Credentials and Registration was made by Mrs. R. M. Phelps, Richmond, who announced 56 Members and 8 Visitors registered.

Upon Motion by Mrs. V. A. Stilley, Benton, seconded by Mrs. B. K. Menefee, the reading of the Minutes of the Fourteenth Annual Meeting, held at Paducah, was dispensed with as the entire Proceedings, including the Minutes, had been published in the Quarterly Supplement to the Kentucky Medical Journal, known as the Woman's Auxiliary Section, beginning in the January, 1937, issue.

In the absence of the Parliamentarian, Mrs. B. K. Menefee was appointed to fill the vacancy.

The President delivered her Report of the Administrative Office, with the First Vice-President, Mrs. J. Paul Keith, Louisville, in the Chair. The Report was adopted, with thanks, upon Motion by Mrs. George A. Hendon, Louisville, seconded by Miss Grace Stroud, Louisville. Following her Report, the President brought three Recommendations to the attention of the organization which were acted upon as follows:

1. Motion was made by Mrs. A. T. McCormack, seconded by Mrs. George A. Hendon, that the Chairman of Finance consider the purchase of a mimeograph machine, providing the Budget will permit, for the use of the President. Carried.

2. Motion by Mrs. P. E. Blackerby, Louisville, seconded by Mrs. S. C. McCoy, Louisville, that an Executive Board Meeting be called

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within 6 months of the Annual Meeting to consider plans and progress. Carried.

3. Motion by Mrs. A. T. McCormack, seconded by Mrs. J. I. Greenwell, New Haven, that the work of the Public Instruction Committee be merged with the work of the Public Relations Committee. Carried.

Reports of the following County Auxiliaries were made by the respective Presidents or Delegates:

Breathitt
Campbell-Kenton
Graves
Hardin
Jefferson
Licking Valley District
Madison
Marshall
Nelson
Perry (now inactive)
Samson Community Hospital District

Upon Motion of Mrs. J. Paul Keith, seconded by Mrs. V. A. Stilley these Reports were received and filed. All Reports presented in writing will be published in The Quarterly.

A letter read from the President of the Harlan County Auxiliary, Mrs. Wm. M. Martin, Louellen, reporting inactivity, was accompanied by a check for Twenty Dollars, the balance remaining in the treasury, with the suggestion that this sum be used for the support of The Quarterly, or used at the discretion of the Executive Board.

Motion by Mrs. J. I. Greenwell, seconded by Mrs. Stephen C. McCoy, carried, that letters of condolence be sent to Mrs. Charles Baron, Latonia; Mrs. L. E. Smith, Louisville; Mrs. John G. South, Frankfort and Mrs. Henry Enos Tuley, Louisville, because of illness necessitating absence from the Meeting: to Mrs. E. B. Houston, Murray, and to Mrs. Curt H. Krieger, Louisville, upon the recent passing of their husbands.

The President recommended that a Resolution of Thanks be sent to Dr. P. E. Blackerby, Assistant State Health Commissioner, and his Staff, and to Dr. Hugh R. Leavell, Director of Health of the City of Louisville, and his Staff, for their generous cooperation in the preparation of display material depicting health activities during the Flood, for the Exhibit of the American Medical Auxiliary at their Annual Convention, June 6-11, 1937, in Atlantic City.

In Memoriam was given by Mrs. J. Paul Keith.

Recess.

Informal Subscription Luncheon

An informal luncheon was enjoyed at Boone Tavern, Berea, at 12:30 P. M., Tuesday, September 14th, following a drive in automobiles from Richmond. The President, Mrs. E. A. Barnes, introduced Mrs. Robert H. Cowley, Berea, President of the Madison County Auxiliary, who acted as Toastmistress. Following the luncheon, Mrs. Cowley presented the Trio, Mrs. Charles Morgan, the Misses Grace Cornelius and Helen Bicknell, who sang with charming spirit and verve, Night Fall In Granada, Miss Catherine Murphy, accompanist.

Mrs. William J. Hutchins, wife of the President of Berea, and other guests at the Speakers Table were introduced.

Dr. Fred W. Caudill, Louisville, Epidemiologist of the State Department of Health, discussed the subject of Domestic Servants, A Health Problem In The Family Circle. An enlightening address.

Dr. William E. Gardner, Head of the Department of Psychiatry, Medical School, University of Louisville, discussed The Proposed State Psychopathic Hospital.

Dr. William J. Hutchins, President of Berea, welcomed the Auxiliary to Berea College and invited the Members to inspect the Campus.

Drive And Entertainment

An inspection tour of the grounds and buildings of Berea College and The Churchill Weavers, Inc., was followed by a Tea at the home of the President, Dr. William J. Hutchins and Mrs. Hutchins.

Annual Dinner

Members of the Auxiliary enjoyed the privilege of attending a dinner in honor of Dr. Irvin Abell, President-Elect of the American Medical Association and Dr. A. T. McCormack, President-Elect of the American Public Health Association, given by the Kentucky State Medical Association, in Burnam Hall, Tuesday, September 14th, at 6:30 P. M. Mrs. Augustus S. Kech, Altoona, Pennsylvania, President of the Woman's Auxiliary to the American Medical Association; Mrs. Frank N. Haggard, San Antonio, Texas, President of the Woman's Auxiliary to the Southern Medical Association; and Mrs. Ernest A. Barnes, Al-

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bany, President of the Woman's Auxiliary to the Kentucky State Medical Association, were seated at the Speaker's Table.

MINUTES OF THE ANNUAL MEETING

Second Session

The second session of the General Business Meeting of the Fifteenth Annual Meeting of the Woman's Auxiliary to the Kentucky State Medical Association was held at the Library, Eastern State Teachers College, Richmond, at 9:15 A. M., Wednesday, September 15, 1937. The President, Mrs. Barnes, presided. A quorum was present. (28 Members were seated at the beginning of the session.)

The Minutes of the previous session were read, corrected and approved.

Motion by Mrs. B. K. Menefee, seconded by Mrs. J. I. Greenwell, carried, that all reports, including those sent in writing, but not read, be published in the Quarterly.

Reports of State Officers and Committee Chairmen were made, accepted and filed as follows:

President-Elect, Mrs. S. C. McCoy.

First Vice-President and Chairman of Organization, Mrs. J. Paul Keith.

Treasurer, Mrs. Luther Bach. Motion that the Treasurer's Report, together with the Report of the Auditor, be adopted, was made by Mrs. A. T. McCormack, seconded by Mrs. C. A. Menefee, Covington. Carried.

Archives, Miss Grace Stroud.

Cancer Control, Mrs. J. Paul Keith read the report in the absence of the Chairman, Mrs. J. Duffy Hancock.

Doctor's Shop, Mrs. J. B. Lukins.

Finance, Mrs. B. K. Menefee. Motion to adopt by Mrs. V. A. Stilley, seconded by Mrs. Luther Bach. Carried.

Historical Collections, Mrs. V. A. Stilley.

Hygeia, Mrs. C. C. Turner.

Jane Todd Crawford Memorial, Mrs. A. T. McCormack.

Motion by Mrs. J. B. Shacklette, Jeffersontown, seconded by Mrs. J. E. Edwards, Lancaster, that a donation of Ten Dollars be made from the Treasury to the Jane Todd Crawford Memorial Committee of the Woman's Auxiliary to the Indiana State Medical Association. Carried.

Motion by Mrs. Stilley, seconded by Mrs. Greenwell that the Auxiliary endeavor to complete its pledged One Thousand Dollar contribution to the Jane Todd Crawford Memorial Fund of the Southern Medical Auxiliary this coming year and present it to the Southern Medical Auxiliary upon the retirement of Mrs. Luther Bach as President at the Annual Meeting in 1938. Carried.

Joseph Nathaniel McCormack Memorial. The President, with Mrs. J. Paul Keith in the Chair, made a verbal report because of the absence

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of the Chairman, Mrs. E. B. Houston, and appealed for personal reminisences of their own experiences with Dr. McCormack or of the experiences of husband or some other person. This is an attempt to obtain a complete record of Dr. McCormack's life story.

Legislation, Mrs. C. A. Menefee.

Public Relations, Mrs. Keith read the Report in the absence of the Chairman, Mrs. Wm. M. Martin, Louellen.

Tuberculosis, Mrs. A. T. McCormack read the Report in the absence of Chairman, Mrs. L. E. Smith, Louisville.

The Quarterly: Editor, Mrs. A. T. McCormack.

Business Manager: Mrs. McCormack read the Report in the absence of the Business Manager, Mrs. Wm. H. Emrich, Louisville. Motion by Mrs. B. K. Menefee, seconded by Mrs. V. A. Stilley, that this Report be accepted, with thanks. Carried.

Motion by Mrs. Keith, seconded by Mrs. Greenwell to adopt all the Reports. Carried.

Mrs. V. E. Holcombe, Charleston, West Virginia, Chairman of Program, Woman's Auxiliary, American Medical Association, arrived and was introduced by the President. Mrs. Holcombe gave a most enlightening description of the plans and procedures of the National Program Committee for Health Education and displayed several books and pamphlets available for Auxiliary use.

The Report of the Delegate to the Annual Meeting of the Woman's Auxiliary to the American Medical Association, held in Atlantic City, was presented by Mrs. Stephen C. McCoy. Accepted and filed.

The Report of the Delegate to the Woman's Auxiliary, Southern Medical Association, held in Baltimore, was presented by Miss Grace Stroud. Accepted and filed.

The Report of the Resolution Committee was presented by Mrs. J. B. Lukins, Chairman, as follows:

RESOLUTIONS

WHEREAS, the Fifteenth Annual Meeting of the Woman's Auxiliary to the Kentucky State Medical Association, is drawing to the close of a very successful assembly, and

WHEREAS, the Madison County Medical Society and Woman's Auxiliary have successfully worked together hand in hand to arrange for our comfort and entertainment, and

WHEREAS, Eastern State Teachers College has given us unlimited use of her very attractive campus and buildings, and

WHEREAS, the local press has been most considerate and devoted valuable space to notices of our meetings, now

THEREFORE, BE IT RESOLVED, that we express our sincere appreciation of all these courtesies extended to us at this time.

WHEREAS, the beautification of the Jane Todd Crawford Trail has been started with the planting of trees in Green and Taylor Counties, now

THEREFORE, BE IT RESOLVED, that the Woman's Auxiliary to the Kentucky State Medical Association enter more actively into this project, cooperating with the residents of the four counties through which the Trail passes, the Women's Clubs, the school children and the young people's organizations in securing flower seeds, bulbs, plants, shrubs and trees for planting along the sixty miles of the Highway, and, further

BE IT RESOLVED, that the Jane Todd Crawford Memorial Committee cooperate with Mrs. Emma Guy Cromwell, Commissioner of Conservation, in the development of the two annual observances of Arbor Day, legal in Kentucky, one in the autumn and one in the spring, for furthering the beautification of the Jane Todd Crawford Trail.

WHEREAS, The Woman's Auxiliary to the Indiana State Medical Association, cooperating with the Indiana State Medical Association is now promoting the development of a Jane Todd Crawford Memorial by beautifying the grave in the Johnson Cemetery at Graysville and by marking the highway leading to the grave, now

THEREFORE, BE IT RESOLVED, that the Woman's Auxiliary to the Kentucky State Medical Association express, by a letter to the President and to the Chairman of the Jane Todd Crawford Committee of the Indiana Auxiliary, appreciation and commendation of this project of the Indiana Auxiliary and that the Kentucky Auxiliary appropriate ten dollars ($10.00) from our Treasury to assist in the completion of this project.

WHEREAS, The Woman's Auxiliary to the Southern Medical Association has published a booklet containing a brief sketch of the life of Jane Todd Crawford, together with five different suggested plans for the development of Jane Todd Crawford Memorials in the different States, now

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THEREFORE, BE IT RESOLVED, that the Woman's Auxiliary to the Kentucky State Medical Association express its commendation and appreciation to the President of the Southern Medical Association, Mrs. Frank M. Haggard, San Antonia, Texas, and to the Chairman of the Jane Todd Crawford Committee, Mrs. T. R. W. Wilson, Greenville, South Carolina, and

WHEREAS, The States comprising the Southern Medical Auxiliaries have, with Oklahoma taking the lead, begun to pool their funds for a mutual memorial to Jane Todd Crawford, now

THEREFORE, BE IT RESOLVED, that the Woman's Auxiliary to the Kentucky State Medical Association endeavor to complete its pledge of one thousand dollars ($1,000.00) to this Southern Medical Auxiliary Memorial to Jane Todd Crawford and make the payment at the 1938 Annual Meeting of the Southern Medical Auxiliary in honor of Kentucky's President, Mrs. Luther Bach.

WHEREAS, the financial, as well as the editorial support of the Woman's Auxiliary Supplement to the Kentucky Medical Journal is the privilege and the responsibility of the wife, mother, sister and daughter of each member of the Kentucky State Medical Association, and

WHEREAS, the burden of financing this publication has, for the six years of its existence, been borne almost entirely by a few women in Jefferson County, and

WHEREAS, this burden has now become too great for these few volunteers to carry alone, now

THEREFORE, BE IT RESOLVED, that a letter be sent to every member of the Kentucky State Medical Association setting forth these facts together with an appeal for a donation of at least one dollar ($1.00) for the financial support of the Quarterly during 1938.

WHEREAS, Dr. P. E. Blackerby, Assistant State Health Commissioner, State Department of Health, and Dr. Hugh R. Leavell, Director of Health of the City of Louisville, cooperating with Miss Grace Stroud, Chairman of Archives, made and gave to the Woman's Auxiliary of the Kentucky State Medical Association two interesting maps, showing the flooded area of the State in the recent catastrophe, together with the outstanding activity in each of the organized County Auxiliaries, and pictures of the buildings and places of interest to the doctors and their families, State and National Parks, etc., designated by colored dots and strands of colored woolen yarn, now

THEREFORE, BE IT RESOLVED, that we express to Dr. Blackerby and Dr. Leavell our sincerest appreciation of their generous service and valuable gift.

WHEREAS, the Woman's Auxiliary to the Madison County Medical Society has so delightfully and completely provided for our comfort, convenience and entertainment throughout the Meeting, including:

Ample and spacious rooms for all meetings.

A Get-Acquainted Tea at the Richmond Country Club.

A drive to Berea followed by a beautifully appointed and delicious luncheon at Boone Tavern with an entertaining and instructive program.

An inspection tour of the Campus and buildings of Berea College, concluded with a Tea at the home of the President, Dr. Wm. J. Hutchins, and Mrs. Hutchins, now

THEREFORE, BE IT RESOLVED, that we express our grateful thanks to them for these very happy occasions and for all of their many courtesies.

WHEREAS, we have been privileged during this Annual Meeting to have several speakers, outside the Auxiliary, appear on our program, so that we might benefit from their knowledge and experience, now

THEREFORE, BE IT RESOLVED, that we express our gratitude to:

Mrs. E. H. Heller, Acting-Governor Keen S. Johnson, Rev. Frank N. Tinder, Dr. H. G. Reynolds, Dr. J. D. Northcutt, Dr. W. E. Gardner, Dr. J. Duffy Hancock, Dr. Fred W. Caudill, The Berea Ballad Trio.

WHEREAS, Our President with her staff of Officers and Committee Chairmen have served us so faithfully this past year, and

WHEREAS, Our President, by her gracious and dignified manner of presiding, has added greatly to our pleasure during this meeting, now

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THEREFORE, BE IT RESOLVED, that we express our appreciation to her and to all of her associates by a rising vote of thanks.

Respectfully submitted,
MRS. J. B. LUKINS, Chairman
MRS. C. C. TURNER
MRS. C. A. MENEFEE.

Motion by Mrs. V. A. Stilley, seconded by Mrs. J. I. Greenwell, that the Resolutions be adopted. Carried.

The final Report of the Chairman of Registration and Credentials was given by Mrs. Murison Dunn and showed an attendance of 88. Delegates or Alternates, 15; Officers and Committee Chairmen, 22; members, 34; visitors, 17, making a grand total of 88, representing 20 counties.

The President announced that she had accepted the resignation of Mrs. Frank Sewell on the Nominating Committee.

The Report of the Nominating Committee was presented by the Chairman, Mrs. B. K. Menefee. Mrs. Keith moved the election of the candidates; seconded by Mrs. Greenwell. Nominations from the floor were called for. None were offered.

Motion carried that the nominations be closed. A motion carried that the Secretary cast the ballot, whereupon, the following were declared elected:

President-Elect—Mrs. Harlan Vernon Usher, Sedalia, Graves County.

First Vice-President—Mrs. Joshua Bell Lukins, Louisville, Jefferson County.

Second Vice-President—Mrs. Caswell C. Turner, Glasgow, Barren County.

Third Vice-President—Mrs. John B. Blades, Butler, Pendleton County.

Fourth Vice-President—Mrs. Frank Sewell, Jackson, Breathitt County.

Recording Secretary—Miss Grace Stroud, Louisville, Jefferson County.

Treasurer—Mrs. Luther Bach, Bellevue, Campbell County.

Parliamentarian—Mrs. C. A. Menefee, Covington, Kenton County.

The newly elected officers were called to the platform and introduced by the President, forming a guard of honor as Mrs. Stephen Clifford McCoy, the Incoming President, was installed by Mrs. B. K. Menefee and presented with the gavel by Mrs. E. A. Barnes, Retiring President. Following her acceptance address, Mrs. McCoy announced that her Corresponding Secretary will be Mrs. Charles H. Moore, Louisville, Jefferson County.

Adjourned sine die at 11:55 A. M.

(Signed) GRACE STROUD,
Recording Secretary.

ANNUAL LUNCHEON

The Annual Luncheon of the Woman's Auxiliary to the Kentucky State Medical Association was held at 12:30 P. M., Wednesday, September 15, 1937, at the Masonic Temple, Richmond, Mrs. E. A. Barnes, Toastmistress. This luncheon was given the members of the Auxiliary with the compliments of the Kentucky State Medical Association. The acting hosts were: J. D. Northcutt, M. D., Retiring President; H. G. Reynolds, M. D., President; both unavoidably absent; and the Advisory Council, Virgil Kinnaird, M. D.; A. T. McCormack, M. D., and V. A. Stilley, M. D.

Honor Guests were National and Southern Auxiliary Officers:

Mrs. Augustus S. Kech, Altoona, Pennsylvania, President, American Medical Auxiliary.

Mrs. Frank N. Haggard, San Antonio, Texas, President, Southern Medical Auxiliary.

Mrs. V. E. Holcombe, Charleston, West Virginia, Program Chairman, American Medical Auxiliary.

Dr. V. E. Holcombe was also an Honor Guest.

Brief talks were made by the members of the Advisory Council. Dr. McCormack told about the project in medical history research recently undertaken by the National Youth Administration Guidance Project, under the Works Progress Administration, and congratulated the Auxiliary in this latest evidence that its work in the collection of medical history is continuing to bear fruit.

Mrs. Kech brought an inspiring message from the American Medical Auxiliary, prefacing her remarks with a remarkable story about Mrs. Marion Sims.

Mrs. Haggard extended a cordial invitation for all to attend the Southern Medical Auxiliary when it meets in New Orleans, November 30, and explained membership affiliation with the Southern Medical Auxiliary, emphasizing the fact that there is the happiest relation between the American Medical Auxiliary and the Southern Medical Auxiliary—"A Little Sister Attitude," she explained, "the Southern Medical Auxiliary being the Little Sister."

POST-CONVENTION BOARD MEETING

The Post-Convention Board Meeting of the Woman's Auxiliary to the Kentucky State Medical Association was held in the Library, Eastern State Teachers College, Richmond, at 3:00 P. M., Wednesday, September 15, 1937, the President, Mrs. Stephen C. McCoy, presiding. A quorum was present (17 members and 2 guests). Honor guests were: Mrs. Frank N. Haggard, San Antonio, Texas, President Southern Medical Auxiliary, and Mrs. V. E. Holcombe, Program Chairman, Woman's Auxiliary to the American Medical Association.

Invocation was offered by Mrs. V. A. Stilley.

The President announced the Committee Chairmen Appointments: Approved.

The program of work for the coming year was presented by the President under the title of Aims for 1937-1938. Following explanation, a motion to adopt by Mrs. B. K. Menefee, seconded by Mrs. E. A. Barnes. Carried.

The President appointed the following Committee to approve the Minutes of the Second Business Session: Mrs. E. A. Barnes, Chairman, Mrs. V. A. Stilley, Mrs. J. B. Lukins.

The request made by Dr. H. G. Reynolds that the Auxiliary assist in the work for the prevention of blindness was referred to the Public Relations Committee. The work of the Program Committee of the American Medical Auxiliary was further explained by Mrs. V. E. Holcombe, Charleston, West Virginia, and free discussion brought out many helpful suggestions.

The plans for beautifying the Jane Todd Crawford Trail were discussed and it was voted that detail developments be sent to the membership through the Jane Todd Crawford Chairmen in the counties.

Adjourned 4:00 P. M.

(Signed) GRACE STROUD,
Recording Secretary.

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REPORT OF THE BALTIMORE MEETING OF THE AUXILIARY TO THE SOUTHERN MEDICAL ASSOCIATION, NOVEMBER 16-19, 1936

Miss Grace Stroud, Louisville, Delegate

The Woman's Auxiliary to the Southern Medical Association held its Thirteenth Annual Meeting, November 16-19, 1936, in Baltimore, Maryland, with the Lord Baltimore Hotel as headquarters.

To the Kentucky Auxiliary, the most important part of the meeting was the election of our own Mrs. Luther Bach as President-Elect. Mrs. Bach gained the admiration and affection of all of us as our State President last year and we are sure she will make a gracious and capable leader for the Southern Auxiliary.

The social side of the Convention is always emphasized by the Southern Auxiliary. They have but one Business Meeting. At that session, with Mrs. Oliver W. Hill, Knoxville, Tenn., presiding, there was a revision of the Constitution and By-Laws. All membership dues were eliminated and the Southern Medical Association offered to pay all necessary expenses of the Auxiliary. After the reports of the Officers and Standing Committees the State Reports were given, with Mrs. E. A. Barnes reading the one from Kentucky.

The Annual Luncheon followed immediately. After greetings from the President of the Southern Medical Association and the members of the Advisory Committee, the principal speaker, Dr. Wm. D. Haggard, Nashville, Tennessee, was presented. His subject, interestingly and pleasingly developed, was Jane Todd Crawford, Pioneer Heroine of Surgery. Dr. Haggard recommended the observance of Jane Todd Crawford Day, annually, by all County Auxiliaries. The Report of the Nominating Committee with the Election and Installation of Officers followed. Mrs. Frank N. Haggard, San Antonio, Texas, Incoming President, made a most gracious and delightful Acceptance Speech.

The entertainment arranged for this meeting was especially enjoyable with an all-day trip to the United States Naval Academy at Annapolis the highlight.

A stop was made at Fort McHenry on the way to Annapolis. It was Fort McHenry the British were bombarding that night Francis Scott Key was held a prisoner on one of their ships. On seeing the American flag still flying at the Fort the next morning he composed those verses which became our national anthem.

From Fort McHenry we were taken to old St. John's College where we visited some of the historical buildings of the School and some famous old homes nearby. Luncheon was served at Carvel Hall which was erected in 1763 by William Paca, one of the signers of the Declaration of Independence. After lunch special points of interest at the U. S. Naval Academy were visited. We saw the chapel where John Paul Jones is buried and Bancroft Hall, the dormitory of the midshipmen while in training. Later, we witnessed a full dress parade of Midshipmen.

The program for the next afternoon was a sight-seeing trip and a Tea given at the Welch Medical Library. On the trip we passed the grave of Edgar Allen Poe, the new University of Maryland Hospital and famous old Johns Hopkins University and Hospital. The Tea, in honor of the wife of the President of the Southern Medical Association, Mrs. Fred M. Hodges, ended a most pleasant and profitable meeting.

News From The Counties

(Continued from July Issue)

McCRACKEN

Beside re-organization and entertainment of the State Annual Meeting outstanding work of the McCracken Auxiliary was the service it rendered for Relief during the flood. Although there was no time for organization, every member reported to the headquarters nearest her, and volunteered for work—any kind of work.

Several of our members were on duty at the Irvin Cobb Hotel until it was evacuated; others served at Reidland and Perkins Creek throughout the entire period. However, most of the work was carried on in Avondale. Clark School was taken over for Riverside Hospital and from our group we furnished nurses, secretaries, workers in the supply rooms and kitchens, and to give typhoid vaccine.

Several of our members lucky enough to be high and dry, turned their homes into maternity hospitals and homes for nurses and doctors. Our County members opened their homes to refugees.

Paducah will long remember the untiring efforts made by our doctors, nurses, ministers, auxiliary members, and many others, who labored unceasingly throughout the flood period, to relieve suffering humanity.

MERCER

The Mercer County Auxiliary Members feel that their outstanding work of the year has been the lecture series they have sponsored on Cancer Control by Dr. Massie of the Lexington Clinic and on Syphilis by Dr. Votow. Several lectures on Syphilis were given in the High School of the County by Dr. Votow, as well as a public lecture, at the Court House, Harrodsburg, in April.

We held our last meeting of the year on Monday, May 3rd. All ladies in town (Harrodsburg) who were eligible for Auxiliary membership, were invited to this meeting. After the business hour, we served tea and cookies on the back veranda of Pioneer Mansion and enjoyed a delightful social hour.

We wish to report that a new member has come into our Auxiliary from the home of Dr. and Mrs. T. O. Meredith, Jr., Margaret Meredith, born April 17, 1937, at Price Memorial Hospital, Harrodsburg. Mother and baby are now at their apartment and are well and happy.

Samson Community

Tuesday, February 25th, saw eight of us once more gathered around the lunch table, enjoying a very pleasant social hour. We were especially happy to have Mrs. James A. Dixon back with us after long illness. Most interesting points gleaned from the conversation were that: Mrs. Paul S. York had been on a trip to Kansas City to attend the graduation exercises of her sister, Mary Ola Depp.

We all thought of Mrs. Clifton Richards with her son, who underwent a serious operation in

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a Montreal Hospital, and wished for him a happy and rapid recovery.

Dr. and Mrs. W. A. Weldon have a gorgeous peacock strutting around their beautiful new model farm at Goodnight, Kentucky. After traveling over miles of some of the worst roads in Kentucky trying to find a mate for him, they finally had to send to Iowa for his layde faire.

Every one was exclaiming delightedly over the "super" Flood Edition of the Quarterly. From Mrs. C. G. Depp, Hiseville: "I enjoyed it so much, I am going to send it on to friends in other States." While Mrs. C. C. Howard said: "I am going to keep mine for posterity. It's a treasured number." Mrs. C. C. Turner and Mrs. W. A. Weldon agreed: "It was wonderful and most interesting." Mrs. Jas. Dixon said that it made her "realize more than ever the great capacity for bravery and self-sacrifice among Doctors and Nurses." Mrs. W. M. Chapman is going to forward her copy to friends in California so they may see what a fine Auxiliary and what an excellent publication, all our own, we have in Kentucky.

Called to order for a Business Meeting by our President, Mrs. C. C. Howard, we reviewed the 1936-1937 Aims of the Kentucky State Auxiliary, read by Mrs. Paul S. York, and all resolved to live up to this fine program to the best of our ability in the future.

Contributions were collected for a fund with which to buy necessary articles of clothing for colored triplets.

It was voted, also, that we sponsor TB Essays and Venereal Disease Control lectures in the colored schools.

We decided to start a campaign against spitting on the sidewalks and in the public buildings of Glasgow.

Election of officers for the ensueing year was the last item on our business program. Mrs. W. M. Chapman, Glasgow, was elected President; Mrs. Paul S. York, Glasgow, Vice-President; and Mrs. J. W. York, Canmer, Secretary-Treasurer.

"At our last meeting, we were discussing the Flood Quarterly and trying to say, in our feeble way, just how much we appreciate it. Then, it dawned on us that perhaps a little donation in cash might express our appreciation more than our words. So—here is a small donation ($5.00). We wish we had more to send.

Sincerely,
(Mrs. C. C.) FLORENCE TURNER,
Secretary-Treasurer."

(Edi. Note: Mrs. Wm. H. Emrich, Business Manager, gratefully acknowledges with thanks.)

Current News

Hardin

Dr. Garnett Bale, son of Dr. and Mrs. Shelby Bale, has removed to Elizabethtown, his old home, to practice after a year at Lynch, Kentucky. His wife, an active member of our Auxiliary, and young son are additional attractions to our community.

Dr. and Mrs. C. F. Long and children spent two weeks during July at Warm Springs, Georgia, for the benefit of Charles, Jr.

GRAVES

Mrs. Joseph Lawrie, of Charlotte, N. C., recently visited her parents, Dr. and Mrs. H. A. Gilliam.

Dr. and Mrs. Garnett Belote and family, of Caledonia, Minn., spent several days with his sisters, Mesdames D. D. Adams, E. O. Tripp, Emmett Blackburn, T. G. Boaz, and his brother, B. N. Belote.

Mrs. Frank Waller and daughter, Beverly, were recent visitors with her parents, Dr. and Mrs. J. G. Puryear, South Seventh Street.

Mrs. T. O. Kirksey, mother of Dr. J. F. Kirksey, has gone to New York with Mrs. R. H. Canaday who has been a guest of Dr. and Mrs. Kirksey.

Dr. H. H. Hunt, county health officer, has urged that stagnant pools in the county be oiled. Refuse oil for this purpose is available at local filling stations. A county-wide effort for mosquito control is a part of the program of the health department.

Miss Betty Brown, Transylvania student, is spending the summer with her parents, Dr. and Mrs. C. C. Brown.

Dr. and Mrs. Will J. Shelton have returned from St. Louis, where Dr. Shelton attended a medical meeting.

Dr. Roscoe Sisson, of Jacksonville, Florida, is visiting his sister, Mrs. Lester Cochrum. He will also be a guest of his nieces, Mrs. E. B. Smith and Mrs. Hubert Traughber, before leaving for Detroit to visit his son, Dr. John Milton Sisson.

Dr. and Mrs. J. F. Blalock, of Crawfordsville Arkansas, were week-end visitors with his father, J. F. Blalock and family.

Miss Jincy Hunt, of New York City, was a recent visitor with her parents, Dr. and Mrs. H. H. Hunt, South Second Street.

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